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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROFESSOR G. F. STOUT,

WITH THE CO-OPERATION OF PROFESSOR E. B. TITCHENER, AMERICAN
EDITORIAL REPRESENTATIVE, AND OF PROFESSOR WARD, PROFESSOR
PRINGLE-PATTISON, DAVID MORRISON, M.A., AND OTHER MEMBERS
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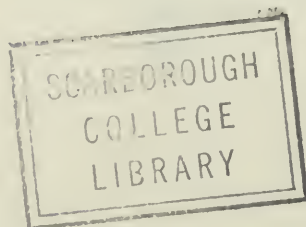
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I.—OBSERVATIONS ON THE CASE OF SALLY BEAUCHAMP.

BY W. LESLIE MACKENZIE.

1. *Importance of the case.* When the Editor of MIND placed on me the responsibility of reading and discussing Dr. Morton Prince's *Dissociation of a Personality*,¹ I did not fully realise the peculiar nature of the case described or the magnitude of the issues already attached to the conclusions of the study. Even the reading of the book itself, which hitherto I had only glanced at in a bookseller's shop, tended to mislead one, for the tale was told with a romantic airiness and grace quite strange to clinical research. These 560 packed pages do not contain a dull sentence. Doubtless, the fascinating nature of the facts have much to do with the interest of the narrative, but one must recognise the entirely exceptional goodness of the mere composition,—the lightness of exposition, the masterly arrangement of the whole story. It is, I suppose, the completest thing of its kind in the English tongue, and, so far as a single case is concerned, probably in any European tongue. After the first feeling of romance had passed and I re-read more intensively, I began to understand why the book has produced such an effect. One almost wonders, however, whether such tremendous issues can properly be rested on a single case, however intensive the study of it has been. Thus

¹ The *Dissociation of a Personality*. A Biographical Study in Abnormal Psychology. By Morton Prince, M.D., Professor of Diseases of the Nervous System, Tufts College Medical School, etc. Longmans, Green & Co., 1906.

Dr. Schiller uses it to confound further his many monistic enemies, and offers to them in Miss Beauchamp a model for a "mad Absolute," but whereas Miss Beauchamp was cured by "the astute manipulations of Dr. Morton Prince," the Absolute, by definition, has no such hope of cure.¹ Prof. Taylor, too, in the recent discussion at the Aristotelian Society, suggested, obviously with Miss Beauchamp in his mind, that the relation of these multiple personalities to one another illustrates the relation of God to the other "persons" in the universe. "One might even venture to illustrate this point by reference to those well-known cases of multiple personality in which the so-called completest personality is aware of the character of one of the partial selves but dislikes and despises it. For here the acts and volitions of the secondary self seem to be directly known to the complete self, *without the intervention of any perceptive symbolism* and are yet not recognised as its own acts and volitions but as those of an inferior and hostile personality. I do not want to make too much of these unusual types of experience, but they do seem to suggest a possibility of understanding how God may be directly and immediately aware of my sinful emotions and volitions, and even how, as the theologians put it, these emotions and volitions could not exist at all apart from the *concursus ordinarius* of God, and yet may be experienced by God as being my volitions, etc., and not His own, and as something hateful to Him." I have italicised "without the intervention of any perceptive symbolism" because it is one of the most essential points in the whole record of this "dissociated personality". Prof. Taylor here returns Dr. Schiller's "mad absolute" with interest, but, however welcome his suggestion may be to the theologians, I am not sure that the limitation he places on God further on in the article will be equally welcome. This, in passing. Then, again, Dr. Schiller uses Miss Beauchamp to heap up the difficulties of Solipsism, as if that bone were not already contentious enough.² But his point seems to me a real one, and has probably had not a little to do with the difficulty of securing a serious discussion for those "split-off personalities". So long as the problem of solipsism concerned our traditional "selves," the difficulties have hitherto been enough to prevent any agreement among metaphysicians, even in expression; but if the "selves" are to be increased to an average of three a body, with hypnotic "states" thrown in, we shall be driven to

¹ *Journ. of Phil., Psych. and Scientific Methods*, iv., 1, p. 20.

² *MIND*, N.S., No. 70, p. 183.

specify how much of what goes under the name of "mind" is to be regarded as "self," or decide whether we should not try, as the telepathists seem to be trying, to discover a way out of our minds into the minds of others "without the intervention of any perceptive symbolism,"—so becoming like Sally with B I. and B IV.

These are enough to show how much is made to depend on this case, or rather on the type of investigation it represents. But I cannot resist adding one more reference. Dr. McDougall, in his discussion before the Psychical Research Society¹ goes almost the length of making Sally a crucial case to decide the truth or falsehood of monism,—including materialism, epiphenomenalism, psycho-physical parallelism,—as against dualism, in its two leading forms, first, where the "form of mental activity" is separated "from the content of the mind," the nervous system being responsible for "content," the psychic "being" for "form," and, second, where the "psyche" is responsible for everything and the body seems a curious superfluity.

I do not deny that Sally Beauchamp—the Mephistopheles of this strange group—is a most appropriate point of departure for a discussion of all the major problems of psychology and metaphysics, including theology, but where the details are so many and the difficulties of securing exactness so great, I can only hope to offer some observations mainly from the standpoint of psychology. Since the publication of this book, Dr. Morton Prince has published notes of some other allied cases and has discussed in considerable detail the whole theory of the "subconscious" and his own special views on it. With these discussions and this book we are pretty well in possession of his leading doctrines, which are in line with those of Janet, Freud, and other workers in this field. Of the present book of facts, let it be said that it has all the air of perfect good faith, not only on the part of the author, which goes without saying, but also on the part of the patient, who was able to bring a cultivated and interested mind—or minds—to bear on the observer's difficulties. At the time of writing the book, he had had the patient under observation for some six years or more. He "kept copious notes, often made daily, of the life of Miss Beauchamp. The evidence given by all three personalities, as well as by the hypnotic selves, has been laboriously recorded. Every piece of evidence which would throw light upon, substantiate, or discredit any alleged occurrence or mental phenomenon

¹ *Proc. S. P. R.*, pt. lii.

has been made use of. At all times, including intervals of enforced absence, as in the summer vacations, a considerable correspondence with each personality has been kept up" (p. 8). Nevertheless, a large amount of factual material must have escaped notice or record, and the frankness of Dr. Prince invites the most unsparing criticism of what is recorded. Personally, from the reading of Janet and others, I am rather inclined towards Dr. Prince's own theory of the case, but it is well to remember the caution given by Prof. A. H. Pierce,—"Not only is it true that many reporters of hysterical and other automatisms reveal an unwarranted artlessness in accepting their subjects' statements as scientific verities, they err also, I am convinced, in giving us only a fragment of the entire situation".¹ Dr. Prince is a skilled observer and no doubt allows for these organic tricks of the hysterical, but, in the nature of the investigation, it is hardly possible to record everything, and we must look to supplementary discussion and later verifications to elucidate difficulties, of which there are many. What is obvious to me is that we are not yet justified in making any more than provisional deductions from this case, and that the difficulties raised, for instance, by Dr. McDougall, are such as to call rather for more observation and experiment than for new application of speculative theories.

2. *What is a personality?* We are here concerned first to know what a "self" is to mean for the purpose of this research. Whether the "self" so understood will serve all purposes of the general psychological "self," the "self" used for discussions of metaphysical theory, is matter for argument. But what Dr. Prince means is this,—“I merely wish to point out in a general way that by a subconscious self I mean simply a limited second, co-existing, extra series of thoughts, feelings, sensations, etc., which are (largely) differentiated from those of the normal waking mind of the individual. In abnormal conditions these secondary 'thoughts' may be sufficiently organised to have a perception of personality, in which case they may be regarded as constituting a second self. Such a second self is not known to the waking self, which is not even conscious of its existence (excepting of course by inference from acts). B III.—Sally—was such a self. . . . In unstable natures the mind may be disintegrated in such a way as to produce a doubling or rather a multiplication of consciousness and to form two, three, or more

¹ *Journ. of Phil., Psych. and Scientific Methods*, v., 10, p. 268.

groups of subconscious states, which at times are capable of considerable independent activity. At times when excited they are capable of being stirred into fury, when they burst forth like a volcano, fermenting and boiling, in 'crises' of a pathological character. Such were the so-called 'demoniac possessions' of the middle ages and such are the hysterical crises of modern medicine" (p. 18). So far we are on familiar ground. Incidentally, we may say that Dr. Prince prefers the term "co-conscious" to the term "subconscious," because he maintains that there is evidence in Sally's and in other cases to prove that there may be two concurrent streams of consciousness, each unaware of the other, or one aware and the other not, but both acting much on the same materials of experience. Whether such a second consciousness is normal or only pathological is one of the points yet to be determined. In his articles in the *Journal of Abnormal Psychology*, Nos. iii., iv., v., he gives this general statement a wider sweep, resting his theory on the masses of familiar facts that prove the existence of lines of cleavage within the normal mind. For each person has many spheres of interest and each sphere develops its own system of thoughts, its own "complex". Normally, all these complexes are more or less closely associated,—“large associations bound together, memories of experiences in special fields of thought”. But each complex “as a whole with its emotional tone is fairly well delimited from the other complexes”.¹ When the person experiences any great shock, or great emotional disturbance, or violent stress from fatigue or exhaustion, dissociation, passing or permanent, may take place and the dissociation may follow the lines of cleavage roughly prepared by the relations of those apperceptive masses. All this is familiar to us from normal psychology. Every day brings proof of it in some degree. Whenever an experience passes out of the field of attention, it tends to sink below the level of the current consciousness, to become a “disposition” or, as Dr. Prince would say, a “dormant complex,” and there it is apt to get beyond recall, except by special artifices, like hypnotism, automatic writing, where that occurs, or the hypnoid state (studied minutely by Dr. Boris Sidis²), or by dreams, or under the depressions or stimulants of fevers, or under stress of fear or other strong emotion; or, for no apparent reason, the experience will appear “long after”. In this wide sense, we are all daily laying up the material of possible co-consciousnesses, possible selves, liable to come out

¹ *Journ. of Abnorm. Psych.*, iii., 4, p. 281.

² *Multiple Personality*, p. 327 *et passim*.

of their hiding when the upper levels of our common current consciousness get weakened. The current consciousness, the field of working attention, would then simply be the cutting edge of personality, the flowing point where the organism is adapted to its environment, the part of our remembered experiences that is kept burnished by use and organised for the daily practice of life. The materials unused at the moment are quite as real and are quite as legitimately included in our personality. Equally, so far as they cease to function with the current consciousness or cease to be capable of so functioning, they are to be regarded as either functionally dissociated masses or in a condition to become so, if the necessary stress should come. For the purposes of these studies, then, our current consciousness becomes the growing point of our experience, or the point of fresh adaptation to the environment. The particular metaphor does not matter. The important point is that each person, or personality, carries within him masses of living, dying and dead experiences,—dead, that is, in relation to any possible re-use of them for immediate life, but not necessarily beyond recall through the devices named. As bearing on the case of Sally, Dr. Prince's "chronological complex" is noteworthy. "In a general way . . . , as they are successively experienced, become associated so that experiences of an epoch tend to be conserved *en masse*. . . . This is an axiom of memory."¹ In dissociation "the cleavage of memory may be along chronological lines, that is to say, the amnesia embraces a certain epoch only. The newly integrated personality goes back to the period last remembered in which he believes, for the moment, he is still living, the memory of the succeeding last epoch being dissociated from the personal consciousness."²

Whether these selves or personalities resulting from dissociation, are on the same plane as the normal self is largely a matter of terminological convention. They fulfil all the ordinary tests for diagnosing a "self". But they are "inferior" (Prince) to normal selves; yet, in the present case, Miss Beauchamp, though she impressed her world as a capable growing self for six or more years, was all the time a quasi-somnambule personality. And Sally embodied so much of the memory of the other selves and of the whole experiences of the life lived in that body that Dr. McDougall³ regards her as stronger in will and feeling and character generally than any alleged normal self obtained by re-synthesis of the group. Here I may say that I think the apparent

¹ *Journ. of Abnorm. Psychol.*, iii., 4, p. 284.

² *Ibid.* ³ *Op. cit.*, p. 428.

strength of Sally is more or less illusory. It was in the Sally "phase" of the drama that most of the past experiences came to life and use. No doubt if she was actually a separate person, not really of the same order of personality at all as the others, she was stronger, but I hope to give reasons for believing, with Dr. Prince, that she was of the same kith and kin as the others, a product of dissociation. The special point about all these minor or major selves is that several may exist in the same body. The history of their formation is somewhat different from the history of the formation of the normal self, which is the product of a whole life up to the given moment, but as much a projected growth, a construct, as they.¹ Those selves have memory and the power of recognition. These are two essentials.² That the one brain should lend itself to the formation of several selves of this order is not more mysterious than it should retain traces of experiences now forgotten and not used by the current consciousness, but capable of recall under the proper stimulus. There are large masses of the brain that are probably lying fallow or resting. It may be, as Dr. McDougall points out, that this is somewhat difficult to account for from the standpoint of evolution; but it seems to be the fact none the less and is a variation of the first importance for the survival of man. We are not to gauge the mental capacity or the nervous capacity of man or animal by the small range of experiences open to our observation.

Whether we are to count any of the "Sally" selves as normal or not, we may accept Dr. Prince's statement about the normal self: "A normal self must be able to adjust itself physiologically to its environment, otherwise all sorts of perverted re-actions of the body arise,—anæsthesia, instability, neurasthenic symptoms, etc.,—along with the psychological stigmata,—amnesia, suggestibility, etc.,—and it becomes a sick self. Common experience shows that, philosophise as you will, there is an empirical self which may be designated the real normal self. However, I shall put aside this question for the present and assume that there is a normal self, a particular Miss Beauchamp, who is physiologically as well as psychologically best adapted to any environment" (p. 233).

3. *What is dissociation?* From the quotations given, Dr. Prince's general view of psychological dissociation may be inferred. An excellent statement is given on page 3. There are various ways of figuring the mechanism of dissociation.

¹ Stout, *Manual of Psych.*, ii., c. vii.

² Höfding, *Outlines of Psychology*, p. 139.

One of the best is Dr. McDougall's in his articles on the "Physiological Factors of the Attention Process": "We have only to suppose that the paths which connect some group of upper level systems with the rest of the neural systems of the brain have their resting resistance so raised as to render impossible the drainage of energy from the one group to the other. The systems of one group, while remaining in the relation of reciprocal inhibition to one another, then cease to have this relation to those of the other group, and it becomes possible for any two systems belonging to the two different groups to be simultaneously active, *i.e.*, there are in one brain the neural conditions of two streams of presentations passing through two foci of consciousness."¹ It is right to add that Dr. McDougall himself does not consider either the current theory, or this specialisation of it "altogether satisfactory, because it assumes that the essential condition of the unity of individual consciousness is the spatial continuity of neural substance and neural process,"² and he finds it difficult to accept this assumption. Meanwhile, his statement makes the provisional hypothesis of functional dissociation of nervous groupings or constellations definitely conceivable as a possible occurrence in the brain. The abnormal selves would be a special case of an innumerable multitude of graded cases, which may range from the momentary forgetting of a word to the highly stable and complex personalities evoked in Miss Beauchamp. How the inhibition is operated by the varying resistances of the synapses between related groups of neurones is a matter of detail. From the standpoint of the clinical observer, who is dealing with a flesh and blood body that thinks, "the current explanation of such cases, which has been approved by so high an authority as Prof. Stout,"³ is certainly effective and he will not readily give it up so long as treatment based on it succeeds. Dr. Boris Sidis presents the same facts in terms of "moments consciousness" and the rising and falling of threshold values of constellations of neurones.⁴ M. Pierre Janet's statements of the theory and his numerous illustrations are too well known to need more than a reference. How the allied doctrine of "dispositions" can be applied critically is well seen in Prof. Stout's criticism of Myers in the *Hibbert Journal*, ii., 1. How it is applied as a method of mental analysis is illustrated in Dr. Münsterberg's *Psychology and Crime*.

¹ *MIND*, N.S., xv., p. 355, and *Brit. Journ. of Psych.*, i., pt. iii.

² *Ibid.*

³ *Ibid.*

⁴ *Op. cit.*

4. *History of Miss Beauchamp.* Dr. Prince has not dealt fully with the disease aspects of the case in this volume. But in part iii., vol. ii., "the neurasthenic state, including the relation of changes in physical health to psychic states, will be considered" (p. 23). No doubt many facts of importance will be forthcoming. Meanwhile, what we get of the personal history of the patient is briefly this: "The little that is known of her heredity from a neuropathic point of view is suggestive of nervous instability" (p. 11). The grandfather was said to have had a violent temper and to have been wanting in self-control. The father was the same. Of the mother nothing is said except that she was very repressive of the daughter. But the married life was unhappy. In the child-life of Miss Beauchamp, we find records of day-dreaming, morbid reticence, supersensitiveness about duty to her mother, easy fatigue, somnambulism, headaches, nightmares. "When she was thirteen, her mother died. This was a great shock to her mental system, and for a number of weeks she was probably half delirious, or, as we would now interpret it, disintegrated. The three years following her mother's death, when she lived with her father, were a period of successive mental shocks, nervous strains and frights" (p. 12). The details for good reasons cannot be given. "It is unlikely that even a strong constitution would withstand the continuous nervous strain and depressing emotional influences to which her whole childhood was subjected. At sixteen she ran away from home and thus ended this hysterogenetic period. At a later period anxieties of another kind succeeded those of her youth. In Miss Beauchamp's heredity and childhood, then, we find ample to account for the psychopathic soil which has permitted her present condition" (p. 13). There is a further history of trance-like states and somnambulism. As a child, she "took everything intensely. . . . She saw people through her own ideas, which dominated her judgment and which tended to be insistent. Even as a child she appeared to have hallucinations, or at any rate so mixed up her day-dreaming and imaginings with reality that she did not have a true conception of her environment" (p. 13). In 1893, when she was eighteen, she had another grave nervous shock, which is the shock associated with the special development that ultimately brought her into the hands of Dr. Prince.

These facts are of the very greatest importance from the psychological standpoint; for they make it quite clear that we are here dealing with an extreme condition, where dissociation occurs on the slightest provocation, where every

experience is exaggerated, where we have the natural phenomena following from a perverted and repeatedly disturbed nervous growth,—the stigmata, at least the mental stigmata, of hysteria, and occasionally the physical too, extreme suggestibility, aboulia, etc. These classes of facts have been made only too familiar to us by M. Pierre Janet. The girl was obviously abnormal from the cradle. She was all her life receiving shock after shock and suffering more every time. I emphasise this early history, because it probably contains the true beginnings of Sally, who is the chief puzzle and the independent, or almost independent, variable of the group. All three personalities seem to me to be the end-products of a long history. As we see them first, they come to us almost fully developed. But surely here if anywhere the becoming is as important as the being. In most of the comments I have seen on the case, the personalities are looked at backwards as from the adult standpoint. They ought also to be looked at forwards from the infantile standpoint. For instance, one possible criticism of the finally re-integrated Miss Beauchamp, namely, that she is not a normal person after all, or not *the* normal person, may be met in part at least by the contention that, with such a personal history as is here displayed, there never was from infancy a normal Miss Beauchamp and never could be. What Dr. Prince has made of the “broken lights” of that unhappy, elusive personality is probably the best that could be made, but, even so, her normality is a normality relatively to her own history, not relatively to the ordinary stable person’s nervous system. When the instability even of a healthy infant is aggravated by the conditions of stress here depicted, the nervous system hardly gets a chance to become fully integrated. Further, the different stadia of “chronological shocks” must have resulted in endless minor dissociations, which would give more and more materials for fresh integrations. That Dr. Prince should have been able, with exhaustless patience and skill, to bring order out of this flowing chaos of experiences is one of the greatest recorded triumphs of psycho-therapeutics. There is probably a great deal still to cure or to restore, but probably also much that can never be restored. Functional paralysis begun in infancy and confirmed by adult experience is not a good case for the physician, and a mind broken and fragmented functionally as this was is justifiably regarded as a sort of prolonged functional paralysis of the brain-systems. The “stigmata” are only another name for the same fact.

5. *The three persons and the evolution of Sally.* Miss Beauchamp (B I.), student, came to Dr. Prince. She was hypno-

tised. In the hypnotic state (B II.) she remembered her waking experiences. But on awaking, she had complete amnesia for her hypnotic state. This is the usual phenomenon. Later, in the hypnotic state—which, on this occasion, seems to have been a deeper state of trance than the first (p. 30)—the subject spoke of her waking state as She, the third person. Acting on the hint, Dr. Prince ultimately found that this was another personality altogether (B III.). B III. came and went. Apparently, at first she did not appear until the hypnotic state was deeper than at the first sitting, and then she claimed not to be asleep at all, but to be awake! “In contrast with this attitude of B II., the second hypnotic self, who was correspondingly named B III.—Sally—refused from the very first to accept the idea of being asleep or being Miss Beauchamp asleep” (p. 29). Here is the beginning of many puzzling situations. This B III. claimed to be a separate person awake, yet she was really known to be, to all appearance, another person asleep. Ultimately, she became Sally Beauchamp, but there were several stages in her unveiling. She claimed an intimate knowledge of all that happened in the mind of Miss Beauchamp—B I. At first her eyes were kept closed during the hypnotic state that revealed her, yet she claimed to be awake. She was not able, however, to open her eyes. Her claim to be awake, therefore, was probably in part at least a delusion. Later, she insisted on getting her eyes opened and then apparently she completed her individuality and was able at once to re-act on the environment like a normal person. She seemed to have some power over Miss Beauchamp, B I., and ultimately she acquired the power to knock her about as and when—or almost as and when—she (Sally) chose to “come”. Later still, another person—B IV.—appeared. Their relations to each other may be briefly indicated by the statement that B I. and B IV. were mutually amnesic, and amnesic also of Sally (B III.), while Sally was, at least at the date of discovery, familiar with some or all of B I.’s experiences, but not at first with B IV.’s and only doubtfully later. This suggests at once that Sally’s knowledge of B I.’s inner mind was acquired indirectly, not by direct intuition—“without the intervention of any perceptive symbolism”. And there is a good deal of evidence tending to confirm this. As this is a cardinal point in the whole case, I deal with it below. So far, the analysis.

Of synthesis, it is enough to say that, ultimately, B I. and B IV. both disappeared and the Real Miss Beauchamp came, with the memories of both B I. and B IV., who, however,

when they reappeared on break-down of the Real Miss Beauchamp, showed amnesia for her. Sally vanished when the Real Miss Beauchamp came and also reappeared when there was break-down. She claimed to be the same relatively to the Real Miss Beauchamp as she had been to B I., but not very clearly to B IV., namely, a persistent co-consciousness, with her own parallel experiences and her knowledge of the other mind "on inner lines". But whether Sally still exists as a real co-consciousness during the presence of the Real Miss Beauchamp, there has hitherto been no means of verifying; because all stigmata of hysteria are absent, no automatic writing is possible and no independent presence in the hypnotic state can be established. Sally has been "squeezed" out of existence to all appearance, but whether she is a factor in the new synthesis or remains as a "dormant complex," a "disposition," irrecoverable by the ordinary processes of the current consciousness of the Real Miss Beauchamp, remains still a doubt. She gives no proof of her presence whatever. That she did co-exist with the Real Miss Beauchamp rests simply on her word when the Real Miss Beauchamp is once more resolved temporarily into her old trio. On the supposition that Sally is an early off-split, if she be such an off-split at all, or a growth from an infantile rudiment, there is nothing surprising in her disappearance, or in her apparent dormancy, or in her belief that she co-existed with the Real Miss Beauchamp. If, however, on the break-up of the Real Miss Beauchamp, her experiences, or part of them, were projected as Sally, Sally's belief that she had co-existed would be the same as if she really had co-existed. As Dr. Prince says, the conditions of amnesia and memory are very subtle and the variety of possible illusion in such a subject is infinite. If Sally is not a dormant part of the Real Miss Beauchamp, how does she come when the Real Miss Beauchamp goes, and why does she give no sign while the Real Miss Beauchamp remains? She may very well be the unconscious basis of all the personalities, but now functioning as an element, not as a principal. It is certainly a point to be further investigated why the Real Miss Beauchamp knows nothing "of Sally, her life and her doings . . . except indirectly. Of this part of her mental life she has no more memory than has B I. and B IV." (p. 525). But it is far from certain that the disconnexion of B I., B IV. and Sally was absolute.

Let us characterise Sally's evolution a little more in detail.

(A) If there be anything in the theory that mental complexes formed under stress of emotion persist longest con-

sciously or subconsciously, it is reasonable to infer that, when under stress of great emotion, dissociation takes place in early adolescence, the split-off complex will retain the characters of the adolescent life. Sally may be regarded as such a "chronological complex". She represents a time of life when emotion is very great and most unstable; when acquisitions are most vivid; when the disregard of conventions is greatest, because conventions are not yet fully established in consciousness; when aggressiveness is the predominant attitude; when curiosity is greatest; when, in a word, the whole person is trembling on the verge of great experiences, and demanding ever more and more of them. It would, therefore, naturally follow that, if such a complex could function by itself, it would show greater apparent initiative, greater individuality, greater persistence, greater want of control. And this is what Sally shows. Her apparent independence, her capacity to dominate the others, resembles in so many minor points the impact of the aggressive younger sister on her older sisters, that little more seems necessary to account for her on-goings. There is much general, but little detailed evidence that different shocks resulting in dissociation took place at different ages and the split-off consciousness would naturally take the emotional tone belonging to the periods. In Sally, the intellectual emotions predominate; altruism has not yet claimed its share in her feelings. She is the thoughtless, mischievous, unsympathetic girl, but never normal. In the others, B I. and B IV., we have later aspects of character, the older sisters' contempt for the spoilt child, the richer emotions of the grown woman. But the fact that, in varying circumstances, the three aspects each made themselves manifest in the re-integrated personality tends to show that Sally was of the same kin as the others and that her claims to uniqueness, though strong, were not overwhelming. That the amnesia between her and her alternatives did not cut both ways is not by any means a unique fact. Dr. Boris Sidis maintains that, had the hypnoid state, not the hypnotic state, been used, the dissociated trio would have come sooner into one,—as in the Hanna and other cases. He appears to have detected nothing unique in Sally.

Whether by illusion of memory or by fact, Sally claims to be contemporary with the very early stages of Miss Beauchamp's personality, if she be not indeed a parallel development of the oldest part of Miss Beauchamp's experience. It is certain that Sally did not come into full existence all at once. Until the time that she forced open B. II.'s eyes, she was scarcely even a semi-independent person. Even then,

she is speaking the language that Miss Beauchamp had learnt in her early days ; she is working on the experiences of the same childhood ; she is revolting against some, rejoicing in others, and behaving generally as the arrested or perverted development of Miss Beauchamp's childhood or early adolescence. The readiness to "take to" Jones also points to the probability that Sally represents an incipient stage of that attraction and, to that extent, is one with B I. and IV. Meanwhile, the later personalities have become organised and for the time have overlaid the older. In the ordinary intercourse of life, the relatively childish complex named Sally was of little use, having been superseded by the necessities of adult livelihood. But when the nervous system became further disintegrated, the submerged Sally grew relatively more active, and, on being subjected to the further dissociation due to the hypnotic state, Sally emerged as the more active and in some respects more developed personality.

What makes the problem of Sally much more difficult to place properly is that we come upon her very late in her history. She springs upon the stage apparently from nowhere and forthwith becomes the star. But this is illusory. In the course of the corporate life of all the personalities, there were many shocks resulting in greater or less nervous disintegration. We need not assume that Sally was separated once for all and then grew at once as a parasitic personality. There is evidence to show that she, like the others, grew more and more distinct as the shocks were repeated. And it is probable that, like the other personalities, she has been partly revealed indeed by hypnotic processes, but, like them, has also been partly made by the processes that revealed her. Her education probably dated from long before the great shock and went on lines of its own. She had not learned French or shorthand, and, in spite of her claim to read directly all that B I. has in her mind, she can neither speak the French B I. speaks nor write the shorthand she writes.

(B) *Sally's claim to run from infancy.* "According to Sally's memory, the separation began somewhere about the period when the child was learning to walk, whatever that age might have been" (p. 393). But Sally has no idea of time or age (p. 393). This claim, then, cannot be taken as if it were verified. It is not in itself absurd or preposterous, but the belief in its accuracy might very easily arise from later experiences, as normally happens with our beliefs about our own early days. There is no reason why, given the necessary conditions, the "dispositions" of infancy should not survive into adult life and receive articulate expression, even if they

were dispositions formed by the *hearing* of words rather than by their use. But the occurrence is in the last degree unlikely and in Sally's case we cannot deny the claim, but we can rest nothing substantial on it. As to her memory, Dr. Prince says that "it must be open to tricks and hallucinations, like the memory of ordinary people" (p. 394). In the case of a person that, at one stage of her adult life, showed some ten or twelve disintegrated "personalities," some greater, some less and all passing from one to another with the most bewildering rapidity (chap. xxix.), this reserve is absolutely essential. The marvel is that there should be any certain fact of an introspective kind to record. It is scarcely out of this atmosphere that we can expect to take assertions of personalities at face value. "Sally, indeed, thinks she can remember events in her life dating back to a time before there was a separation of consciousness and which she places in infancy. But the date is an inference and the facts of perception, like that of her cradle, she could well have acquired and probably did acquire at a later date. . . . But a memory going back to infancy is without doubt an hallucination similar to what many people have" (p. 394). Yet Sally makes these claims with the same conviction as she does her claim to direct intuitional knowledge of B I. and B IV. At a number of places in this kaleidoscopic record, I have had the uncomfortable feeling that Sally was self-deluded. But Dr. Prince is inclined to accept the claim that the "doubling of consciousness" goes back as far as the time of learning to walk. But he doubts the claim that a subconscious personality had developed at that early period. He suggests rather that "the present subconsciousness—Sally—remembers a number of isolated subconscious perceptions and feelings which, as subconscious phenomena, were more or less normal. Remembering them, now, they seem to be her own personal experiences," as with hypnotic memory of "isolated absent-minded perceptions". . . . "Indeed, this is just what occurs with those perceptions which make up the fringe of our ordinary conscious attention. This fringe we are only half aware of or not at all, but in hypnosis the hypnotic self remembers it as its own conscious experience. I have made numerous experiments proving this, and have shown that when all the personalities are synthesised into one, there is a wide fringe of this kind in Miss Beauchamp's case" (p. 395). This seems to me good reasoning, and, if we apply it to Sally's claim to direct intuition into the other minds, we shall find that, in some instances at least, the claim is illusory. It suggests the same sort of intui-

tional insight as we have into the doings of the hallucinatory self of our dreams, when we see ourselves "out there," engaged in a hundred varieties of experience and activity, yet seeming to ourselves to know precisely and intuitionally all the time what the hallucinational self is thinking and feeling. The vision that B I. had of Sally smoking the cigarette is clearly of this type of illusion, which Lemaitre calls "auto-scopie hallucination". I have had the experience in dreams hundreds of times, and I am satisfied that a good deal of the apparently stable observation of Sally is of the same fragile build. Probably, as Dr. Prince suggests, Sally "as at present organised, may now synthesise the memories of normal subconscious states belonging to childhood, and remembering them as the experience of her own personality, seem to herself to have lived as a whole in the past". Yet he admits that it is difficult to reconcile this with Sally's clear distinction of the normal subconscious states of childhood from her own thoughts. He finds difficulty in accepting the claims without more positive proof and is unwilling to believe that the whole memory is pure hallucination.¹ We are here landed obviously at a point where more investigation is the only right demand and where no inference of a metaphysical kind can be made, except provisionally.

(C) With this general caution, we may now turn back to some minor examples.

(1) Sally's claim to direct knowledge of B I.'s mind can be largely explained on the "attention fringe" theory. If she existed as a co-consciousness, she would have experiences parallel to B I. Having, then, acquired her knowledge of the same experiences at the same time as B I., she naturally believed that she was seeing into B I.'s mind by direct intuition, when in reality, by the same sense, she received her parallel share of the same impressions and, from subsequent experience, inferred the rest. It is significant that, with French, she claimed to see into B I.'s mind, but says that she attended only occasionally. It is legitimate to suggest that her theory of non-attention is merely her hypothesis

¹ Dr. Boris Sidis in *Multiple Personality*, p. 386, suggests a mechanism for the transference of memories *as such* from one "personality" to another: "The functioning constellations of neurons, having the secondary state as their concomitant, are able also to awaken in the constellations of neurons, having as concomitant the primary state, those neural conditions the correlatives of which are memory-experiences, and are transmitted as such by association-paths to the secondary constellation. The secondary moment then remembers that the experiences happened not within its own past, but within the past of the other, of the primary moment."

to explain why her acquisition had not passed a certain point.

It does not, therefore, seem absolutely necessary to assume direct intuition. Further, it is on record that Sally did not from the very first see into B I.'s mind any more than she did into B IV.'s. The illusion, if it be an illusion, was a gradual growth.

(2) P. 37. A post-hypnotic suggestion, given to Sally, is carried out by B I. or B II. This shows that probably the integration of Sally in her final form was not yet complete. Sally played the same part as the hypnotic self, or was not a waking person at any time and, accordingly, could not, in her own person, carry out a suggestion.

Later, B I. sees herself in the crystal smoking a cigarette (p. 55). This seems to indicate that Sally is as yet no more than the recoverable fringe of perceptive experience. It was before the eyes were opened and before she had attained to the independent unknown quantity that so blocked the way to re-integration. B I. must have somehow had the experience of the cigarette smoking. Otherwise, how could she have seen it in the crystal? It is a puzzle, however, to understand how she saw herself in the semblance of Sally, since it was the fact that, while the cigarette was being smoked, Sally's eyes were still closed. Where could she have had the vision of herself smoking the cigarette on the sofa? The only suggestive point was the bitter taste in the mouth, and that she believed to be quinine, not tobacco. And at this stage Sally herself could not have had the vision of herself smoking the cigarette. It seems to follow that, whatever be the full explanation, the imagination of Sally and B I. had, at this stage, much the same content and included the same recoverable fringe of experience. The two persons were not sharply marked off. One seemed much like an illusion to the other. Although B I.'s amnesia was formally complete¹ for Sally, yet in substance it was not; for B I. did have the same experience as Sally and in the crystal vision recalled it. It is a matter of convention whether we are to say that B I. "remembered" the state because she did not instantly recognise the state as having been hers. We might as well disown every written word we have forgotten instead of setting ourselves to build it once more into our mental furnishings when it is proved to be ours. It is not correct to say that the amnesia between B I. and Sally was at this time complete except as to the power of recognition. But, if this be so,

¹ By "formally complete" I mean that B I. would not recognise as her own any experience of Sally's.

then Sally was of the same kith and kin as B I. and, therefore, of the same kith and kin as all the others, but differing in detail, in fullness of knowledge, in activity, in memory and so on. The differences are differences in degree, not in kind.

(3) P. 48. "Chris's claim meant a parallelism of thought." At this time Sally (Chris) "had not independent existence, except in my presence". But, as we have seen, the same experience would provide the presentations for both Sally and B I. The parallelism of thought was probably an illusion resulting from this. So far as the thought was parallel, it might have been due to parallel experience. So far as it seemed to be intuitional, it was probably an illusion. The problem, therefore, is not to account for direct intuition into B I.'s mind, but to account for this illusion.

(4) P. 47. "She always spoke as if she had her own thoughts, perceptions and will during the time that Miss Beauchamp (B I.) was in existence." How much was clever invention and guess-work during the alternation of personalities? B I. learned to guess a great deal when she knew that she could not know directly what had occurred in her trances. Sally may have done the same.

(5) Pp. 61-62. Relation between Miss Beauchamp's thoughts and her compulsory "automatic" language, as well as the relations between Chris's thoughts and speech centres. "Did Chris (Sally) directly make use of the speech centres and do her lying directly? And, if so, what were Miss Beauchamp's thoughts at the time? Or, did Chris (Sally) do it by influencing Miss Beauchamp's thoughts so that the latter did the lying directly?"

Chris's (Sally's) own hypothesis was that she did the talking and Miss Beauchamp thought the things she (Chris) said. Dr. Prince interprets this as meaning that the actual speaking "arouses in B I. the correlated thoughts which were identical with, or part of those of, the subconscious mind". "The correlated emotion" seems to have been incorporated along with the thoughts. All this shows that the mental content of B I. and III. (Sally) had much in common. The episode suggests the very common insane delusion of hearing "voices" when the "voices" are made by the hearer's own lips. Here again the problem is to account for an illusion—probably affecting both personalities.

(6) P. 91. Why should the opening of Sally's eyes be such an important departure in her experience? It seems to have marked the definite establishment of her as a distinct personality. But before the opening of her eyes, she claimed

to be conscious of all that passed in B I.'s mind. This implies that she saw the things that B I. saw. If she was only a "hypnotic state," a "deeper trance," this is what we should expect. Why should the opening of her eyes, therefore, be such a source of new experience? How could she have had B I.'s experience if she had never seen as Sally?

Are we to suppose that B I. in the hypnotic state was incapable of fresh experience for the moment and, as it were, in a condition of mental stasis? When the eyes are opened in this state, therefore, the result is not an increase of experience by the hypnotised subject, but a transformation of the personality and a defining of the experience of Sally. This would be a parallel to Dr. Boris Sidis's hypnoidal state. It looks as if the condition necessary for freeing Sally from the inactive limited life she led was the hypnotising of B I.¹ It is difficult, however, to say precisely what occurred when the eyes were opened,—whether it was the disappearance of the hypnotic state of B I. or the transference of it to a new state of somnambulism, which was Sally.

In an unstable condition, it appears, the opening of the eyes is peculiarly liable to end in the establishment of a separate personality. But up to this time, the relation of B I. to Sally could not be strictly called amnesia. B I. failed to recognise certain experiences as her own; but she was willing to accept them when proved to have been hers. This is simply a failure of recognition.

(7) P. 96. When Sally established herself distinctly, "the thought came to her that perhaps Miss Beauchamp might be dead and would never come back; perhaps she could not bring her back".

But if, as Sally claimed, she knew what Miss Beauchamp was thinking both in sleep and in waking, why should she have any doubt about her condition now? It seems that, when the alternative personality was established, her direct knowledge of B I.'s mind ceased. It was only while as yet she was a sub-consciousness, a sharer in B I.'s experiences, that she knew what B I.'s knowledge was.

This difference confirms the impression that her direct knowledge of B I.'s mind was an illusion. It was more like the apparently direct knowledge of other minds in dreams, which are after all only a muddled reproduction of objective experiences, not a direct insight into the subject's mind.

If this be so, it simplifies the case to a certain extent. It

¹ But see "Conclusion".

is easier to understand the exclusion of mind by mind than the direct (telepathic) knowledge of mind by mind.

Even the method taken by Sally to waken up B I., namely, burning her with a cigarette, still further confirms the view, first, that on the establishment of the alternative personality, any direct knowledge certainly disappeared, and, second, that the apparently direct knowledge in the other state was an illusion.

Why on the establishment of alternative personality should Sally suddenly have ceased to be conscious of B I.'s experience? Up till now she appears to have known all that was passing in B I.'s mind and in the mind of B II.,—that is B I. both in the waking and in the hypnotic state. Now she suddenly ceased to be conscious of any such knowledge. Probably, the functional dissociation of the Sally group and the B I. group was now completed. It reverted frequently.

Later on, we have somewhat of the same experience when B IV. is revealed. At first, Sally knew nothing of her ideas or history; but gradually acquired a knowledge of both. This, however, was by indirect observation and inference, not by direct knowledge of B IV.'s mind. This tends to show that, equally in the case of B I., her knowledge, though seemingly direct, was really indirect.

(8) P. 98. The coming of Sally, once the process was established, seemed to depend on the condition of B I.'s health and "particularly upon a condition of fatigue, which was necessary. The better Miss Beauchamp's health, the more deeply and strongly was Sally imprisoned."

Here once more Sally seemed to have acted as a subconsciousness to the normal Miss Beauchamp; but there is nothing to show that when Sally was fully present as an alternative personality, B I. acted as subconsciousness to her. On the contrary, B I.'s amnesia (formal) was always complete; Sally's never.

But the question arises, was Sally really present always or was her conviction of her being so an illusion? She had no sense of time. She knew no difference between ten minutes and ten months. This points to the idea that, for varying periods she was absent altogether, but never knew when. Probably, she was re-established afterwards when B I. was hypnotised; but it would be very difficult to prove that she had been present at all the experiences of all the intervals when B I. was fully herself.

(9) P. 100. When did Sally sleep, if ever? Did her sleep correspond with the dreamless periods of B I.'s sleep? She

declares that she was conscious of the periods of B I.'s dreams.

P. 153. Dr. Prince thinks that Sally's claim "never to sleep" is an illusion. Probably, her accounts of the others' dreams were equally illusory. She probably had the dreams herself and assigned them to the others.

(10) P. 106. "The hand-writing alone was hers."

Hand-writing is a very delicate test of the grade of education. Here we find Sally writing precisely the same hand as Miss Beauchamp. Distinction is impossible. How is this to be accounted for if Sally is entirely independent? Does it not once more point to the presence of an illusion? Sally's belief in her own independence seems to be a mis-interpretation on her part.

(11) P. 107. "Did nothing worse than stutter." This was one of the "irresistible impulses".

B I. learned this fact from one of her letters to herself (p. 108). Here we seem to have a ravelling of personalities. Sally's claim to have *produced* the stutter was probably as much after-the-fact as the common "voices" delusion. The stutter came first; the illusion afterwards.

(12) P. 114. "The co-existence of a subconscious sane mind with a delirious mind." This might be taken as showing that Sally was an entirely different order of mind. But another view is possible. The alternation of delirious and sane periods might have been interpreted as simply a lull in the delirium, a not uncommon phenomenon. Frequently, in typhus fever, I have seen a delirious person stop his muttering and answer with perfect sanity when firmly addressed. When the stimulus of questioning ceased, the delirium began again. It is easy enough to suppose that, in the lucid intervals, an illusion is generated regarding the delirious intervals. The person may seem to recall the whole that has occurred and have the firm conviction that he does so, just as nobody is so convinced of not having been asleep as the man suddenly and completely roused from deep sleep. In *delirium tremens*, again, we have a type of delirium where frequently the patient may have crowds of hallucinations and, at the same time, remember them all and preserve perfect sanity all through. Delirium varies so much in different intoxications that one cannot speak of every variety in the same terms. But this relative sanity of Sally does not seem to me a crucial proof that she was not herself a product of dissociation. The difference in stability, temper, education, etc., between the two personalities would certainly affect their behaviour in fever, as it does in chloroform narcosis.

(13) P. 126. The letter-writing of Sally to the others is worthy itself of some explanation. If she knew B I.'s mind directly, why did she write? If she could affect B I.'s mind directly by suggestion, why did she take the more round-about method? The need for writing seems to confirm the view that her intuitive knowledge of B I.'s mind, when finally dissociated from her own, was an illusion.

(14) P. 132. "My attendant demon is too much for me and destroys faster than I can write." Apparently, Sally must have been asleep sometimes, or out of existence, or she must have been more readily provoked by some things than by others. If she was, as she claimed, persistently co-conscious, she would have known directly all that the writer was writing even before it was written, as she sometimes anticipated what was to be spoken by B I. The claim to co-consciousness, even after full establishment, is open to the same criticism as Dr. Prince makes of the claim to co-consciousness back through the whole life to childhood.

(15) P. 135. B I. was subject to indefinable fears, and on one occasion the fear emerged in connexion with the breaking of a promise. "In a vague way, Miss Beauchamp was conscious of Sally's enjoyment of the situation." Apparently, the emotion, welling up from the subconscious, carried with it some reference to Sally, this known disturber of the peace. While there was formal amnesia for ideas, there was not the same for emotions. This also brings B I. and Sally more into line. There is here a clear sign of reciprocal knowledge of some sort, or rather interpenetration of experiences.

(16) P. 139. It is found that Sally could be controlled by hypnotism. "Suggestions to Sally influenced the waking self the same as if given to B II. This showed the relationship between the two groups of conscious states (personalities) in spite of their apparent disunion."

This confirms the view expressed that the two supposed personalities are really phases or rather fragments of a single mind—Sally emerging only in the "deeper trance".

(17) P. 438. For a long time Sally was not able to become conscious of B IV.'s thoughts. But (p. 438) she learnt to become conscious of them. But this only "as a result of an effort of will and a certain process she had to go through, and then only at certain times when IV. was in a perturbed condition of mind, which, however, Sally could encourage by inducing hallucinations". Sally gave her "suggestions internally," winding up with "I shall know everything you are thinking".

It is open here to suppose that Sally's apparent knowledge

of B IV. was merely the repetition of her own suggestions to B IV. The apparent knowledge may have been an illusion on Sally's part. There does not seem at any time to have been the free internal knowledge of IV. that seemed to mark Sally's later knowledge of B I. But it does seem from many indications that, whether she was conscious of B IV.'s consciousness or not, she knew when the change from B IV. to B I., or *vice versa*, took place, and gradually built up the system of knowledge that might be called an "internal" knowledge of B IV., or rather an illusional schema of B IV.'s internal knowledge, or, possibly, it was simply Sally's own knowledge assigned to B. IV.

Dr. Prince admits (p. 442) that "The synthesising of B IV.'s consciousness with that of the subconsciousness (Sally) has more of a biographical than scientific interest, as it was not open to experimental corroboration". If Sally described the facts as she saw them, was it all a hallucination of memory on her part? But B IV. testified to the accuracy of the statements regarding her own thoughts. On the whole, he thinks Sally's claim to the knowledge of B IV. justified. Personally, I think this point wants further research. If any part of Sally's alleged intuitive knowledge while she remains a separate person can be accounted for without assuming direct intuition, the presumption is that similar explanations can be found for it all. It is always possible to say that the dissociation from time to time ceased and the personalities became synthesised and thus got knowledge of each other's ideas. The one-sided amnesia would be still unaccounted for, but this is not an insuperable difficulty. Before we assume direct intuitive knowledge of distinct persons, with all that the assumption implies, it is surely worth exhausting other explanations. If we knew all the clinical conditions, the evanescent hypnoid states, the sub-waking transit-states from waking life to sleeping and reversely, we might possibly catch the various personalities out or see some of them flowing together in momentary synthesis and lapsing again. This is very different from the trans-subjective insight involved in the other assumption. I do not say that the temporary synthesis, the restoration of nervous union, *explains* anything; but at least it does not create a new problem.

(18) P. 386. "Mamma was very ill for a long time before she died, and from this time C did all sorts of absurd things, so that I did not know for a long time what she was thinking about. No, she was not at all like B IV., but she had dulness of hearing and sight very like brain fever. The doctor said

she was threatened with brain fever. She was not real, you know ; not herself."

This seems like a suggestion that Sally's knowledge even of C (B I.) was not so complete as she herself imagined. It was rather a series of inferences than of trans-subjective intuitions. Sally may have been the embodiment of earlier memories broken off from present experience. The apparent insight is only illusion. This cannot be the whole fact ; because Sally is capable of the present experience of B I. as well ; but apparently it is hers at second-hand. She seems to take over from the other personalities all that they do and adopts it as her mental furnishing. The point to account for is why she imagined herself a separate person all along and not a particular group of ideas in the general stream.

(19) P. 243. B IV. was able by fixing her mind to recover some knowledge of her amnesic periods. She did in fact induce a state of abstraction, a "hypnoid" state. She was able by this method to recover knowledge of B I.'s actions, but not of Sally's. "There never has been any evidence that Sally's memories were the source of B IV.'s 'mind fixing' or 'scrappy' memories." If this had been the case, it is inconceivable that the regained memories should not have included some of Sally's own experiences as well as those of B I. This was never the case. B IV. never recalled any facts by these processes other than those of B I.'s life, never one of Sally's" (p. 264). "This," as Dr. Prince says, "is a curious and interesting fact ;" but it does not prove that Sally was irrecoverable by B IV. For "with true visions it was different. By this method she (B IV.) occasionally got at Sally's experiences. For instance, she once saw herself (in a vision) as Sally driving in a carriage with a friend. The reason for this difference is not entirely clear, but the facts corresponded with certain results obtained by myself experimentally" (p. 264).

Here we have, as in B I.'s "cigarette" vision, another instance of the projected-self, or "autoscopie" hallucination so common in dreams. And Sally, in both cases, was the "form" of the projection. Yet Sally had never been seen by B I., and only in the mirror by B IV., who was surprised by her own peculiar expression, which was Sally's expression. That the projection should take the form of Sally in both

¹ These 'scrappy' memories, or 'memory-flashes,' are very often referred to and afford further evidence, first, for questioning the complete independence of Sally, and, second, for regarding her as of the same mental origin as the others, but more dissociated from B I. and B IV. than they were from each other.

cases seems to show that the relation between Sally and the others was much more intimate than the records superficially indicate. In fact, it looks as if each self was capable of projecting itself in the form of the others, a sort of power of reciprocal "autoscopie" hallucination. But even this is rather too definite; for we are steadily asked to contemplate well-defined personalities, with individual names. But, in chapter xxix., we are introduced to quite a crowd of "personalities," more or less evanescent and identifiable as coherent unities only with much difficulty. They would hardly "stay to be counted". Possibly, there was disintegration and re-integration, and the fragments of new personalities may have clung to the greater masses.¹ But the result is rather to cloud our minds with a doubt whether we can accept the "unities" named "Sally" and "B I." and "B IV." as anything but provisional formulæ for experience-masses not completely analysed or fathomed. There are indications that "Sally" is not always the same "Sally". Dr. Prince's knowledge of her personal expression must have been profound; but there is much that personal "expression" does not express, and, as many of Sally's "experiences" were probably adopted illusions, changing as the other personalities changed, we may be assigning to Sally an illegitimate wealth of mental experiences of every kind. Dr. Prince indicates this possibility in her alleged memories of infancy. I have given some grounds for extending the criticism to her alleged "intuitional" knowledge of the other personalities. Indeed, one may legitimately suggest a deeper doubt. Sally's way of "knocking about" B I. and, to a less extent, B IV., and her evident belief in the reality of her powers to do so, as well as to see into their minds, looks very like the common convictions of some delusional maniacs, who claim a preternatural insight into other minds, hear voices, "know" what the owners of the voices mean, and believe themselves able to dominate and direct without "the intervention of any perceptive symbolism". Further analysis of the facts is needed to persuade me that a large part of Sally's experiences do not belong to this order. For instance, her anticipation of what B I. was to say *just before* she says it, seems to me an instance of the "voices" delusion from "whispering," the "whispering" in this case being rather suggested by the incipient than by the fully developed action of the vocal organs.

¹ These personalities were adult infants, as it were, who were given no time to establish a recognitive memory. They were a sort of delirium, Sally being the person that had them as hallucinations. They made no protest against "death".

6. *Dr. McDougall's criticisms.* Dr. McDougall's fascinating paper, already mentioned, contains many propositions that I should like to discuss and had marked for discussion ; but I have already exceeded reasonable limits and his paper would need a separate discussion. My effort has been to frame an estimate of the nature of the facts ; the metaphysical implications must depend on the view we take of these facts, and I find my view differing in many important particulars from Dr. McDougall's. Briefly, I do not find in the whole case such material as would crucially determine my final view on parallelism, or interaction, or the separable "psyche," even if this case were supplemented by many others of the kind.

7. *Conclusion,—provisional view of the nature of Sally.* With Dr. McDougall, I doubt whether *the* Real Miss Beauchamp is after all anything but *a* real Miss Beauchamp, if by "real" we mean the original personality that began when the body common to them all was conceived. I doubt if any "Miss Beauchamp" was ever more than an incipient personality. The whole mental growth seems to have been blurred and confused, at least from infancy. Possibly, some of the brain-systems were functionally *unassociated* from the outset, so resembling (functionally) the probable condition in certain kinds of congenital imbecility. If this was so, then there was no "normal" or "real" Miss Beauchamp ever possible ; the best adapted self would survive, and the best adapted is, in our society, the most stable. Out of the emerging, sprouting, but imperfectly related systems of an idiot's brain you cannot make much that is worth calling "normal" or "real," and, if Sally's systems were in infancy prevented from functionally "associating," the "real Miss Beauchamp" will be whatever fits best the uses of life, that is what secures the best health and the fewest stigmata. In this sense, Dr. Prince's "real Miss Beauchamp" is as "real" as any possible "Miss Beauchamp". It may, without inconsistency, be admitted that Sally seems—I emphasise seems, for the sands are very shifting—seems to have much of the "original" energy, the adventure, curiosity, activity, that normally precede the life-actions imposed by custom and conventional ethics. She is, as here presented, a woman of initiative and synthetic energies. Relatively, B I. and B IV., not to speak of the ten or twelve minors, are passive. Yet even B I. had the resistance of inertia, a relative stability ; she went on for at least six known years as a student, and she had more acquisitive power in some fields than Sally. Then B IV. fought for her rights, and, on the whole, conquered. Sally's great apparent wealth of mind is capable of an explanation that

does not involve the assumption that she is more "original" than the others except in the sense that her main "strain" was of earlier origin than theirs, or seemed to carry with it more ancient elements. But, as a fact, we do not have much detail of the "childhood" of B I. and B IV. Neither do we know very closely when each became capable of using the "common paths" (Sherrington's term) in the brain,—the paths of eye, ear, muscle, etc. And how the common organic sensations were allocated is very imperfectly told us here, but may be told hereafter. How far toxic stimulation played a part we do not know; yet, if it could be shown that alimentary or other toxins coincided with certain phases, we should have better grounds for determining whether the claimed powers of Sally over the others was not of the nature of the powers of the "man" in Rasselas over the elements. Any one that has argued with delusional lunatics will be very sceptical of the "powers" claimed.

But the actual investigation gives us data for another view, which seems to me to synthesise many of the facts, if not perhaps all. The view is this: Sally is first revealed as a "hypnotic state" (p. 28), a "second hypnotic self". But she claimed *not* to be asleep; she "refused from the very first to accept the idea of being asleep" (p. 29). But, as a fact, she was, relatively at least to B I. and even to B II., "asleep". "She goes into an apparently deeper trance" (p. 30). She thus comes to *her* claimed "waking state" by "passing into a deeper trance". This is a paradox. But the "deeper trance" is a kind of fact common among P. Janet's cases. For instance, Lucie I., II., etc., were "deeper trances". Now, either Sally was really a "deeper trance," or she was, by nature, whatever her first origin, a personality marked by the suggestibility of the "deeper trance" state. To say that she was "suggestible" looks like flying in the face of all the recorded facts. But "suggestion" is very wide in its forms. To a very highly "hysterical" person, as Sally's "deeper trance" state was, everything that occurs to her is "suggestion," in the sense that she at once takes other people's thoughts and ideas and believes them to be her own, originating with herself. She is built up out of the ideas she thus comes by and believes to be her own. In this she but repeats the common experience in post-hypnotic suggestion, when the subject in the waking state has the firm belief that the "suggestion" comes from himself. The same fact is abundantly common in every one's experience. In Sally's experience, it is the main fact. She thinks she even knows things beforehand when she obviously does not. Her ideas

on "psychology" are probably the clever, unconscious plagiarist's use of Dr. Prince's ideas, gleaned in a hundred interviews. She imagines it is all her own, like all egotists, who, even when sane, often show the ingenuity of genius in finding their own thoughts in other men's mind and words. Their incubation period for assimilation is so short and the egotistic apperceptions so strong, that the origin of an idea is always assigned to themselves, never to another. They get a rude awakening now and again. Sally is never awakened in this sense, if, indeed, she ever was a "waking state" at all. There is a record of her eyes being opened in the trance state, but none, so far as I remember, of her being awakened, *as herself*, from the trance state. It is a tenable theory that she *was* essentially a trance state unawakened and that her annexing of ideas from the others was the clever work of the highly hysterical egotist, to whose mill everything was grist. She is full of illusions of memory and illusions of "intuition,"—forms of suggestion arising out of trifles. She has immense cleverness in "fishing and guessing". All the personalities seem to have had the same. She is full of "autosopic" hallucinations. She has delusions of "power". She claims to be the primary agent in many mischievous actions of the others. But their "irresistible impulses" were probably due to other causes, and, when the impulses were developed, or about to be developed, Sally at once had the conviction that, like the fly on the wheel, she was the active person.¹ She can at once convert a hint into a certainty. Her "telepathy," her intuition, is an "after-the-fact" telepathy, an "after-the-fact" intuition. Her claimed co-consciousness may be real, because she is served by the same organs as the ordinary consciousness, and, given dissociation, this co-consciousness is enough to account for all her illusions of intuition and control. When we find her "in bed" after having apparently produced a whole family of dissociated states, she is repentant for what *she* claims to have done.

To my mind, therefore, the most probable view is that "Sally" was either the main mental system of a profoundly hysterical person ready to develop illusions, or delusions, out of everything, or a "hypnotic state" unawakened, and having all the same mental qualities. When the "real" Miss Beauchamp was formed, Sally "goes back to where she came from,"—a pathetic euphemism. Probably, it is nearer the truth to say that, in going away, she "awoke" from her "deeper trance" and that she no longer wears into a state

¹ Sally is full of "irresistible impulses" herself, but she does not claim to cause them herself.

of super-suggestibility and delirium the new, if not the real, Miss Beauchamp. That the new Miss Beauchamp does not remember Sally's experiences as such is no proof that Sally's experiences are not playing a part in some other form or lying dormant as dispositions or traces that support the whole psycho-physical life and may yet emerge if occasion should require. The same brain-systems cannot be always functioning in every direction at once, and we have, as yet, no method of testing what the "resting state" of the nervous system really implies. Anyhow, the primary paradox to resolve seems to me this—that a person known to be asleep claims to be awake without going through the process of awakening.

We shall await with interest the fuller history promised, and, then, perhaps, it will be possible for the psychologists to prepare a real case for submission to a conference of metaphysicians. Till then, we are free to "speculate," as Dr. McDougall suggests, and I offer my "speculation" among the others.

II.—THE PRESENT PHASE OF 'IDEALIST' PHILOSOPHY.

BY F. C. S. SCHILLER.

It is possible that amid the clamour of new realisms Mr. Bradley's articles do not continue to attract as much attention as formerly; but every real student of philosophy will admit that they form as good a guide as ever to whatever thought goes on in the 'idealist' camp, and that the philosophic views they present are as various, fascinating and puzzling as ever, and cry aloud for a philosophic interpreter. The present phase of Mr. Bradley and the modifications which stress of circumstances has imported into the old body of 'idealist' doctrine are best studied in the articles published in Nos. 71 and 72 of *MIND*.

The first thing that strikes one is the great contrast which exists between them. Almost the whole argumentation of that in No. 71 seems so clearly, intelligently and decisively pragmatic that it might have been written by any pragmatist.¹ But the apparent reconversion of Mr. Bradley to Bradleyism in No. 72 suffices to show that this interpretation would have been a mistake, and would have failed to do justice to the complexity of Mr. Bradley's philosophic personality. The pragmatist side in his multiple personality had happened to come uppermost, but my former diagnosis of his philosophy as a 'chimerical' combination of absolutism, scepticism and pragmatism still held true.² In the privacy of Mr. Bradley's soul these discrepant elements doubtless all live happily and harmoniously together, but as the outside observer cannot place himself in the central point of vision where the kaleidoscopic patterns delight the eye, and can see only the clashing bits of glass, their public performances present as pretty and instructive a problem in the detection of their coherence as any philosophic analyst could desire.

¹ The last paragraph but one and a couple of (purely nominal) allusions to Hegel in footnotes must be excepted.

² *πρόσθε λέων, ὅτιθεν δέ δράκων, μέση δὲ χίμαιρα* (cf. *MIND*, N.S., No. 67, pp. 382-383).

From this point of view the article on Coherence and Contradiction in No. 72 is probably the most illuminating and important that he, or any member of his school, has ever written. For it is by far the frankest in its self-revelation, and for the first time allows us a real insight into the source of his philosophic embarrassments and into the causes of the resulting chaos. Nowhere else has he been so candid, clear and free from the pose of immeasurable superiority to his subject and all who cannot see eye to eye with him. And as candour, clarity and contrition are not as common virtues as might be desired, Mr. Bradley is now setting an excellent example to his school.

In particular I would single out for comment six points of first-class importance.

I. Mr. Bradley for the first time makes clear what he meant by affirming, on the one hand, that truth is ultimately definable in terms of satisfaction, and yet denying that *all* satisfactions have relevance to the question of truth. He mitigates the apparently gross inconsequence of this doctrine by trying to explain his conception of the 'satisfaction of the intellect'; and though it may still be disputed whether his reply is relevant to the issue raised by logical psychologism and can really be thought out, one can now at least understand how Mr. Bradley seeks to reconcile his two positions.

It appears from pages 489-490 that though the criterion of truth is satisfaction, truth is a *special* kind of satisfaction and able to oppose itself to others. And philosophy (by definition) seeks to satisfy this special craving for truth. It is inferred (*a priori* and without appeal to fact) that no *other* way of seeking satisfaction can claim truth. Ideas may indeed be suggested by other wants, and they may work and satisfy us as men; but to say that "whatever the intellect may say or feel about these ideas, they are all none the less true, is ruinous theoretically" (p. 490). It reduces philosophy to a collection of useful ideas, and this is to annihilate it. But though the other human needs have no vote in the world of intellect, they may have a voice. Like Suffragettes, they may clamour, and assail the ears of their lord and master. They may humbly plead—"Are you in fact satisfied with yourself as long as we remain unsatisfied?" And a conscientious and good-natured intellect may thereupon be worried, without derogating from the purity of his principles. For he will be worried 'theoretically'.

Hence Mr. Bradley can in a sense "philosophise with his whole nature"—though not "directly"—without impairing

the supremacy of "the intellect". For his 'intellect' may ask, "how far, in order to satisfy itself, must its ideas satisfy all our needs?" (p. 491).

Let it not hastily be inferred, however, that any need of our nature satisfied in idea is truth; nor yet be objected that the intellect is taken to be "something apart working by itself". It is only maintained that in it "we have a specific function, as such verifiable in experience, and claiming to possess special rights of its own" (p. 491).

This account of the relation of the intellect to satisfaction should undoubtedly afford much satisfaction to its critics. For it is not only far clearer than any previous intellectualist pronouncement as to the nature of 'intellect,' but it makes very handsome concessions to the critics of 'the intellect'. If any one had been willing to say as much at the outset it is probable that the controversy about intellectualism would never have grown so bitter; it is hard to believe therefore that any intellectualist was willing to allow so much truth to anti-intellectualism. But it does not follow that Mr. Bradley's concessions will now satisfy his critics, or lead them to withdraw the charges of (a) verbalism and (b) abstractness.

(a) For what does the doctrine of the *special nature* of the intellect really mean in concrete fact? What more does it mean than that we have special terms 'true' and 'false'? It throws no light on their use and on the conflicts and ambiguities which may arise in the course thereof.¹ Empirical observation is needed for this purpose. It shows also that there are other similar terms, 'good' and 'bad,' 'good' and 'evil,' 'right' and 'wrong,' 'beautiful' and 'ugly'. These are all terms expressive of valuations (a philosophic subject Mr. Bradley continues strangely to neglect), and therefore *generically* akin. Consequently it is hard to see why their specific differences should constitute impassable gulfs between their spheres of application, or why the mere fact that we sometimes have to choose between alternatives one of which strikes us particularly as 'true' and the other as 'good,' should prohibit us from recognising the kinship of the two cases. In point of fact neither human practice nor human language recognises such taboos. In actual use it frequently happens that the terms of one kind are transferred from their usual sphere of application to another. It also appears to be a psychological fact that high degrees of emotional im-

¹ It is clear, e.g., that when Mr. Bradley says that no truth is wholly true, and that yet one may be truer than another, he is (p. 499) using the term in (at least) two senses.

pressiveness, whether æsthetic, religious or moral, do actually claim the *specific* truth-value. How far such claims are logically valid may be disputed, but they are at any rate worth noting and examining. Mr. Bradley's doctrine would prohibit all such inquiries. Does he hope to forbid us henceforth to distinguish between 'good' arguments and 'bad,' to speak of 'true art' and 'false friends,' because the specific terms of logic have been employed in an æsthetic or ethical sense? Surely there cannot be such magic in these 'special' words that they should be able to dis sever the unity of the soul into radically disparate departments? After all Mr. Bradley's distinctions are only matters of language, and when fairly appealed to language¹ decisively declares against him. As for the conflicts between the good and the true and the beautiful, they cannot be held to prove a fundamental incompatibility of temper between them, so long as *inter se* the sciences are allowed to take discrepant views of the same subjects, and nothing is more familiar than conflicts between opposed and discordant 'truths'.

(b) Verbalism is the usual nemesis of abstractness, *i.e.* of false abstraction, and of abstractness also Mr. Bradley's doctrine may be convicted in several places.

(1) It is false abstraction to conceive 'ideas' as intrinsically 'true' apart from their use, and the verification or rejection this entails. For it is an attempt to find the *movement* of cognition in a mere cross-section of the process. It means that truth-claim is confused with real truth (an old and persistent mistake of intellectualists), and truth is conceived to inhere in the mere form of assertion. In real life of course this is never done. Hence a philosophy which prides itself on making this abstraction at once becomes a vain beating of the air in order to bottle the ghost of the living intellect in the empty forms of potential thought.

(2) 'Truth' is a false abstraction so soon as it is taken apart from the processes by which truth-claims are actually tested. The only way, therefore, of vindicating special rights for 'the intellect' is, not by pointing to the fact that it *claims* them, but by showing that it can make *good* its claim, *i.e.* showing that to concede them would be for the good of man as a whole.

(3) The 'intellect' is a false abstraction, so soon as it is taken in abstraction from the rest of human nature. Mr. Bradley's disclaimer (p. 491) fails to show that he has not done this. It is plain that by 'the intellect' he does not

¹ Including his own, *v. infra*, p. 35 note 2.

mean the concrete mind, because if he had meant this he could not have failed to observe that it nowhere stands in the systematic opposition to the will and feelings which he insists on. In all its acts it seems to be pervaded and affected by the non-intellectual processes with which it is interwoven, and it is a psychological impossibility to treat it apart from these. It is only by an artificial and arbitrary *tour de force* of abstraction that the biological unity of human action can be broken up, and the 'intellect' can be sufficiently alienated from life to be put into antithesis to the similar abstractions called 'will' and 'feeling'. And it is only the inveterateness of this abstraction that has hitherto blinded philosophers to the futility of the whole procedure. For if ever either 'will' or 'intellect' could be thought as *existing* in 'pure' (and therefore vicious) abstraction, it would *ipso facto* become unintelligible how they could influence each other or constitute a single soul. If then it is 'philosophical' to misconstrue 'intellect' in this way, all we can say is that 'intellect' becomes meaningless if taken 'philosophically,' and philosophy becomes meaningless if it is devoted to the study of such intellect. But willy-nilly we philosophise with the whole of our nature—in the *only* sense in which either we or intellect or philosophy exist at all, *i.e.* as concrete things and *not* as abstractions.

II. The article in No. 72 shows that Mr. Bradley was not after all equal to the heroic step of discarding as unmeaning the absolutist theory of knowledge and so of escaping from the scepticism in which that theory inevitably ends, as the readers of No. 71 had begun to hope. For there his feet seemed to be resolutely travelling on a better way. He had seen apparently that the search for 'independent' facts and infallible truths¹ was vain, because "when you have descended below the level of error you find yourself below the level of any fact or any truth you can use" (p. 331). He had recognised that 'facts' are made, and the latinity of his term 'construction' had only thinly veiled this recognition² (p. 332). He had commented on the futility of insisting on the 'objectivity' of perception so long as no criterion had been found to discriminate 'perception' from 'hallucination' (p.

¹ Contrast the argument of his article in N.S., No. 66, pp. 153-161.

² It is astonishing what an inexpressible crime a mere translation into Anglo-Saxon seems to be in intellectualist opinion. There is far more insight in the cynic who sums up the philosophic situation in the epigram: "Axioms are postulates, validity is strength, to verify is to make true—the disputes of philosophers are merely verbal".

332). He had criticised the 'foundation' metaphor in knowledge (p. 335), showing that 'a foundation used at the beginning does not mean something fundamental at the end' (p. 336), and urging that knowledge grows solid by the confirming and rejecting of provisional assumptions in their working. He had seemed to see the essential part played in this process by the recognition of error (p. 335). Nay, he seemed even to have caught a glimpse of the all-important truth that the cosmos of knowledge is created not by the indiscriminate inclusion of everything presented, but by selection.¹ Absolute certainty, based on an all-embracing world-order, had been explicitly sublimated into an unattainable ideal, and we had been frankly told to content ourselves with relative probability (p. 336). Lastly, it had been laid down that the question whether any particular claimant to 'fact' was to be judged real or not depended on the *convenience* of the alternatives relatively to the world-order as it existed in our thought, and that it was always a question of "successful contribution" (p. 338), and of what was *better* or *worse* for it (p. 337).² Nay, Mr. Bradley had finally conceded that 'facts' (and, if so, why not *a fortiori* inferences from them?) were always tinged with personality, and that the validity of a fact of observation "is due to such and such a person perceiving it under such and such conditions" (p. 336, *s.f.*).

Now all this was most excellent pragmatism and a great advance on all Mr. Bradley's earlier efforts in this direction.³

But the article in No. 72 presents the appearance of a complete transformation and a relapse into the old absolutism, in some ways more reactionary than the position in N.S., No. 62, in which the belief in the reality of the Absolute was first disclaimed.⁴ All the old crags, rendered unap-

¹ "It is agreed that if I am to have an orderly world I cannot possibly accept all the facts. Some of these must be relegated, as they are, to the world of error, whether we succeed or fail in modifying and correcting them. And the view which I advocate takes them all as in principle fallible" (p. 335). Contrast No. 66, p. 153: "our last judgment, and that is our present judgment, must be taken or rather must be treated, as infallible".

² A very flagrant case of Mr. Bradley's own disregard for the 'special sense' of the logical predicates, and a very sensible intrusion of the 'ethical' (or rather teleological) predicates. Cf. another on p. 338: "by any other method the result is *worse*, therefore for me these principles are *true*". Italics mine.

³ For a full discussion of these see my paper on 'Is Mr. Bradley becoming a Pragmatist?' in N.S., No. 67.

⁴ Cf. my discussion, in N.S., No. 63, on 'Mr. Bradley's Theory of Truth'.

proachable by the constant falls of the rotten rock, reappear to view. Somewhere in their midst we find Mr. Bradley, dodging the stone-falls and desperately clinging to the treacherous support of all his old principles.

Things are for ever passing into their 'others' by a fatality no human wisdom can control, hoping (but *failing*) thereby to express a meaning which can never be *theirs*, because it *must* be a monopoly of the *whole*. Despite (or perhaps by reason of) this "visible internal self-transcendence" (a strangely contradictory metaphor!), it is the duty of the philosopher to insist that the *universe* must *not* contradict itself and to take upon himself the responsibility for all the contradictions that *appear* to flourish in it.¹

All the resources of thought, however, are impotent to grasp this Protean Real. All judgment refers to reality, but qualifies it unsuccessfully. It is eternally condemned by its very form to cut to pieces the living whole it is trying to re-construct. It predicates *a* of *R* and *b* of *R* unconditionally (p. 495), and then remorsefully observes that *R* is more than *a* or *b* or any set of predicates. At last it realises that its assertions can never be true, because *R* is everything. Thus all judgment is condemned to the Sisyphean and self-contradictory task of trying to include all reality in a single affirmation (which if successful would be a tautology), and yet knowing that its very distinction of subject and predicate compels it to dis sever the unity of the reality it is suicidally trying to express.

Of course it follows that "every partial truth is but partly true, and its opposite also has truth". And all truths *are* partial; "the ideas which we are compelled to use are all in varying degrees imperfect, and the truth is nowhere absolute" (p. 499). Philosophy and life fall hopelessly asunder, but neither party can take steps towards a reconciliation. Philosophic truth is useless, and what alone is useful is unphilosophic (pp. 501-502).

In other words, Mr. Bradley now points to the ultimate disintegration of the absolutist scheme of thought as unequivocally as Mr. Joachim himself, who first tried to open the eyes of the 'soft idealists' to the perils of their position. Yet Mr. Bradley will not abandon it. There is no sign that it has ever occurred to him that if the nature of the universe and that of thought are both such as he describes, they are

¹ It is strange that Mr. Bradley does not draw the obvious conclusion that a view which thus takes *appearance* (of contradiction) for reality must therefore itself be illusion, and prefers as of yore to do lip-service to the claims of Hegelism.

thoroughly unfitted for each other, and that no more final refutation of the principle of contradiction could be imagined than the results he deduces from its application to the universe. Yet no search for another way of conceiving either is to be allowed. The only inference it seems reasonable to draw is that long familiarity has enabled Mr. Bradley really to enjoy what to a bystander appears a most distressful situation.

But it still remains a problem to account for the way he got into it, and to explain its discrepancy with the doctrine of the prior article.

This explanation is not difficult, if we observe (1) that the identity of method in the two articles was merely *verbal*, and (2) that the doctrine of No. 71 was not quite completely stated by us. Both articles, it is true, were concerned with the conceptions of coherence and comprehensiveness; but their use of them was very different. In the first article they were used in their concrete application to real problems of knowing, and consequently worked excellently; in the second they were taken in abstraction from any actual application, and consequently became ambiguous verbal phrases. And unfortunately this transition was mediated by the end of No. 71 (pp. 341-342), where Mr. Bradley's grasp of the principles he had used seems to relax and he allows himself to slip out of logic and to do homage to an alleged "demand for absolute reality," which, being unsupported by experience, was bound to hatch sceptical fogs out of metaphysical mares'-nests.

In No. 72 Prof. Stout's concrete use of the 'ideas' of coherence and comprehensiveness is completely forgotten; they have become quite abstract and merely verbal. And this is to say that they are really unmeaning, and that the difficulties they seem to produce are really senseless. But it is possible to show this only to those who are willing to study the psychological facts of their use and to consider the meaning of terms in their concrete application.

Now in its concrete use the 'coherence' of two ideas is always psychological, whether or not it be of logical value as well. It means that they are judged to be *relevant* to each other.

Similarly the 'comprehensiveness' of an idea means its capacity to include all that is *needed* for the due treatment of a psychic problem. Here also the notion of relevance enters in and sets limits to the comprehensiveness. And the two qualities are kept perfectly compatible by this higher and controlling influence.

But if these notions are taken abstractly the situation is changed. The 'coherent' terms can no longer be held together by the purposive unity of the mind's activity, and 'comprehensiveness' becomes an absolute postulate. Consequently 'coherence' becomes an occult quality of viscosity whereby ideas inherently stick together, in what is at bottom a thoroughly irrational and inexplicable way, while 'comprehensiveness' becomes the expression of an inherently impossible demand that each fragment of reality shall 'somehow' expand into the universe. *Hinc illae lacrimae.*

Furthermore, when taken thus abstractly, the demands for coherence and comprehension become incompatible. 'Coherence' can never quite shake off its relation to *relevance*. For it can never be conceived that *all* things cohere with all, but only that those relevant cohere with each other. 'Comprehensiveness,' on the other hand, develops into a complete negation of relevance. If you are bound to include everything you must *add* to that which coheres relevantly that also which is irrelevant, and you cannot possibly confine yourself to the relevant. The result is "an unending incompleteness and an endless effort at inclusion" (p. 494)—and chaotic incoherence. Literally everything must go into your ragbag of a universe, and must cohere with everything else in a continuous chaos. It is clear that this 'ideal of knowledge' is really the negation of knowledge.

III. And the reason of this fiasco? A sheer misconception of the essential function of cognition. A failure to perceive that it is not our business in thinking to dissipate ourselves in the vain attempt to embrace everything at once, but that we should aim rather at concentrating ourselves upon the relevant and at abstracting from whatever can distract us from our immediate purpose. In a word, the essential selectiveness of thought is overlooked. The simple truth is that the ideal of knowledge as all-inclusiveness is a *false* one and we should resolutely turn our backs upon it.

IV. A student of concrete thinking would never be tempted to deny that thought is invariably selective. Indeed Mr. Bradley's own doctrine that thought is mutilation of reality is a sort of recognition of this. How then shall we explain the error, and the adoption of the opposite conception of the nature of thought?

I believe that the answer ultimately lies in the fact that so many philosophers have not yet emancipated themselves from a false psychology, which systematically inverts the true

order of cognitive procedure and engenders a false conception of its ideal.

This doctrine conceives the objects of knowledge, as originally given, to be distinct and separate, and *not* continuous and confused. Consequently the business of thought is essentially to bring together, and not to distinguish, to include in a whole, and not to articulate it. The classical and boldest expression of this psychology is found in the works of Hume. Unfortunately Kant never carried his polemic against Hume's theory of knowledge to the pitch of doubting its real foundations in his psychology, and all the schools of epistemology that revere Kant as their master (including the Hegelian) have tamely accepted it. Even in quarters where Hume is anathema and all knowledge of psychology is piously abhorred, it is tacitly assumed that the great problem of philosophic knowledge is how to 'transcend' the separateness of objects and to include them satisfactorily in a rational whole. One result is that the philosophic account of knowing is thrown into a grotesque antithesis to all the most obvious procedures of scientific and practical thinking.

In Mr. Bradley's case, however, this latent prepossession is not apparently a conscious one. But it finds unmistakable expression also in the article under discussion. For example, he plainly holds that the *existence* of "partial objects" is no problem and may be assumed by the logician, only urging that "with the object there is present something already beyond it, something that is capable both of demanding and of furnishing ideal suggestions, and of accepting or rejecting the suggestions made" (p. 494). "Feeling," therefore, not only presents immediate unity originally, but also distinct *unities*. These are sensible *facts*, and the doctrine of the priority to discriminated fact of a 'big buzzing confusion,' which modern psychology owes to James (and Aristotle!), if not unknown to Mr. Bradley, is at any rate *one* Jacobin doctrine of the American Revolution which he cannot claim to have anticipated or assimilated.¹

Hence a modern psychologist will naturally think that the logician's 'analysis' of knowledge does not go very far, and goes by no means deep enough to solve his problem. He will say: 'Stop, my friend, you are going much too fast and skimming over the surface like an aeroplane trying to rise. Kindly explain, before you get quite up into the air, *how you*

¹ One is sorely tempted to assent to Mr. Bertrand Russell's doubts whether any philosopher ever understands another, when one finds Mr. Bradley professing his inability to discover wherein his view of free will differs from James's (pp. 505-506, note).

managed to arrive at your notion of separate objects? For if *that* is a delusion (or a convenient figment), your whole problem is illusory, and your final failure is merely the proof thereof.'

Now Mr. Bradley himself is willing to admit that *prima facie* a theory of judgment which implies an ideal of a whole to be compounded by a process seen to be impossible, may cause misgivings. However unworthy of 'Philosophy,' he confesses that it is humanly "natural to seek for another view as to judgment and truth". But he is confident (without giving a reason for his faith) that "that effort has resulted, and will result, in failure" (p. 498).

And yet the alternative doctrine has been taught in biology and psychology for years and found to be successfully applicable to every scientific procedure! Science and life everywhere progress by making distinctions or differentiations within a given whole. Objects of thought are constituted by selective abstraction and purposive concentration within a presented continuum. The unity of the universe (of *diction* merely, of course, if we eschew the confusion of logic with metaphysics)¹ is always found, and has never to be made. What has to be made is the distinctness of the objects which we single out and make centres of attention. It follows that their distinctness continues only so long as some one has an interest in distinguishing them, and that when this lapses, they pass back into the whole, which is the background, datum and subject-matter of the cognitive operations which incessantly transform it. Of course this view makes all distinctions relative and has no room for anything absolute. But seeing that the notion of anything absolute in *actual* human knowledge is now admitted by its own champions to be unworkable, this disclaimer will perhaps be counted unto it for righteousness.

V. It is a curious fact that Mr. Bradley is nevertheless after a fashion aware of the humanist alternative. He discusses it, obscurely, under the guise of "the claim of designation to offer logical truth" on pages 500-501. Designation is defined as "the essential qualification of our meaning by pointing, or by the equivalent use of such terms as 'this,' 'here' or 'my'". He admits it as obvious that meaning is in fact actually conveyed by such means, nay that "we are forced to use designation and cannot in life possibly get on without it".²

¹ Contrast p. 497.

² Can Mr. Bradley's own theory of judgment do so? If so, what does its 'reference to reality' mean?

But he denies to this process ultimate logical value, for a reason curiously illustrative of the verbalism into which the abstraction from personal thought (intended to make the thought 'absolute') inevitably sinks.

If ever, we are told, "you set out to seek truth in ideas," you "not only endeavour to say what you mean, but you are once and for ever condemned to mean what you say. Your judgments as to reality are here no less or more than what you have¹ expressed in them, and no appeal to something else, which you fail to make explicit,¹ is allowed. When, for example, you say 'this,' the question is not as to what you are sure is your meaning, if only you could utter it.¹ The question is as to what you have got,¹ or can get, in an ideal form into your actual judgment. And when you revolt against the conclusion that 'this' appears to be a mere unspecified universal, when you insist that you know very well what 'this' meant—our answer is obvious. What are you doing, we ask, with us here on this road?" on which "what is sought is ideas and nothing else is current" (p. 500). So judgment means nothing but "what ideally it contains; and contrariwise what you have not explicitly expressed and included in it is not reckoned". Wherewith exit the appeal to designation!

Now what does this strange doctrine mean? Simply the substitution of a compulsory inconvertible paper currency for the gold of living truth in intellectual exchanges. Nay more; not only does it sanction the use of a paper coinage of words, it actually ordains it and forbids us to offer hard cash! It prohibits any appeal from the abstract 'meaning of the words' to the actual meaning of the man! Logic is to abstract from the actual use of ideas, and confined to a 'way of ideas' which are nobody's thought and are meant by no one. They consequently become mere words. It is literally 'condemned' to "mean what it *says*"—in words. *I.e.* it is allowed to mean *no more*, and no subsequent agreement of human intelligences to understand an actual meaning avails to set aside the original verbal compact. It matters not either that Logic is thus eternally excluded from the plenitude of actual meaning and starved on the thinness of potential forms, or that human thought is left logic-less. Mr. Bradley is sure that this is "the way of philosophy," though "it is not the way of life or common knowledge" (p. 501); he omits only to state whether the logical meaning is to be derived from the verbal inspiration of Hegel's *Encyclopædia* or of Prof. Baldwin's *Dictionary*.

¹ *Verbally.*

But will not common sense and common honesty retort—Then so much the worse for ‘philosophy’? For how unreal and psychologically impossible this whole doctrine is! How utterly it ignores the plain facts of knowing! It cannot deny that in every case what the maker of a judgment means is a question of psychic fact. Nor can it deny that this meaning may not only be *meant*, but also understood. Whatever the terms used, therefore, in such a case, thought seems to have attained its object of communicating itself and conveying truth. But no, this belief is technically inadmissible. All these facts are to go for nothing, in ‘philosophic’ logic. And why? Merely because the meaning has been conveyed by words which would mean something different—in *another context*! Their meaning of ‘this’ in the actual case is to be ignored, because, forsooth, the *word* may designate another object in another case! That no doubt is a psychic fact, and it is perhaps creditable to logic to have discovered it. But it is a fact only about the use and the meaning of the *word*. It is not necessarily a clue to its actual meaning in any case, and it is utterly irrelevant to the logical question whether logic is competent to take official cognisance of actual meaning. Any sane logic, one might think, that was not wholly absorbed in figments and still capable of studying actual thought, would at once perceive that the issue here was not one as to the verbal meaning of certain terms, but involved the whole crucial question, first raised by Mr. Alfred Sidgwick, of whether the *application* of an abstract distinction had any bearing on its value. In his negative answer to this question Mr. Bradley, unfortunately, does not stand alone. He is only refurbishing Hegel’s grotesque proof that the (word) ‘I’ is universal; and the whole traditional Formal Logic dogmatically makes the same denial. But it is punished by falling into inextricable contradiction and confusion.

The essence of humanist logic, on the other hand, is to have recoiled from this brutality and to affirm that a principle is merely an empty form, if it is taken apart from its application and its use. And for it the case of ‘this,’ ‘here’ and ‘now’ is in no wise peculiar. *For in their actual use all terms alike are designations, i.e. devices to convey an actual meaning in a particular context.* In the abstract, all alike are ‘universal,’ *i.e. potential forms for conveying future meanings, within limits loosely indicated by their past use.* A humaner logic will not suppose, therefore, that it makes any logical difference whether I say ‘Puss’ or ‘Tom,’ ‘the weather is fine,’ or ‘this is a fine day’. My meaning in either case is the

same and the forms are equally vehicles of it: it is in either case particular, and *intended* to be applied to an individual case. If logic cannot understand this and feels bound to hold that these judgments differ in more than their verbal form, the sooner it shuts up shop and declares itself and the universe unintelligible the better. But to some at least it will seem more reasonable that it should avoid such consequences by revising its beliefs as to its proper assumptions.¹

VI. But after all verbalism is only the penultimate error of intellectualist logic. The ultimate error which brings to nought Mr. Bradley's theory of knowledge, as all existing varieties of Formal Logic, is that it has committed the lazy abstraction from the *personality* of the thinker and so has dehumanised thought.² That here is the *fons et origo malorum* comes out very clearly on page 507, where Mr. Bradley attempts to justify the logical abstraction from personality by a metaphysical faith in the unity of the Universe. Our judgment can only be true because we believe that in it the one Reality is asserting itself, "and our confidence rests on the hope and faith that, except as an expression, an actualisation of the one Real, *our personality has not counted*, has not gone here to *distort and vitiate* the conclusion".³

Now waiving a legitimate protest against the *μετάβασις εἰς ἄλλο γένος* involved in this attempt to save bad logic by dubious metaphysics, it is clear that this doctrine involves (1) an extraordinary lacuna, and (2) an extraordinary self-contradiction.

(1) It seems to me, I confess, explicable only as one of those curious lapses, with which the psychology of individuals teems, that any one should ever have hit upon the idea that the unity of the universe could be made to guarantee the *truth* of our judgments, without asking himself at the

¹ Capt. H. V. Knox has acutely pointed out to me that if Mr. Bradley's doctrine of judgment intends to refer to a *concrete* reality, it makes at least an attempt at 'designation' itself. It therefore contradicts his present view as to the 'true way of philosophy,' which abstracts from the meaning-in-use. It does indeed seem obvious that if designation is foreign to logical judgment as such, judgment as such cannot refer to a reality not contained in the act; but is it not injudicious in a theory of knowledge which arrives at *both* these assertions to lay such enormous stress on 'coherence' as a mark of truth?

² Cf. my *Studies in Humanism*, pp. 111-113, and Capt. H. V. Knox in the *Quarterly Review* for April, 1909, pp. 402-407.

³ Italics mine. If the sort of verbal criticism absolutism loves were enough to dispose of a creed, it would be a sufficient reply to ask how the one Real can be in need of 'expression' and whether to speak of an 'actualisation' does not imply that it was only potentially real before.

same time—what then could explain their *falsity*? I am not aware however that any monistic thinker has ever explicitly tackled this problem; but it is generally implied in their accounts, as in Mr. Bradley's, that personality is cast for the rôle of the devil, and must be regarded as the principle which 'distorts and vitiates' our truth. Yet even on Mr. Bradley's showing it is not wholly evil, but capable of a "willingness to suppress irrelevancy and to subordinate self-will". In other words, it can suppress its own essential characteristics. A very convenient devil! But further elucidations seem urgently needed.

(2) But supposing even that we could accept the view that personality was the Serpent in the Paradise of Logic, and could cast it out, we should only in consequence find ourselves involved in an acute conflict with the principle of comprehensiveness. For that must, one would think, demand that personality, for all its oddities and vices, must be included somehow in the 'universe' of metaphysical logic. Yet if it is, we shall not only have admitted a disturber of its peace, who insists on recognising 'irrelevancy' and 'suppressing' it, in spite of the verbally obvious fact that to the Whole no part of it can be irrelevant and worthy of suppression, but shall at the same time have rendered nugatory our former attempt to shift the burden of the responsibility for error off the shoulders of the universe on to personality. If, on the other hand, we refuse to 'comprehend' personality, as Mr. Bradley's logic seems on the whole to prefer to do, we shall at once provoke unkind inquiries as to what right a comprehensiveness has to its name which excludes anything whatever, and as to how a theory of knowledge can lay claim to comprehensiveness if it begins by counting out the personality of the knower. After all personality either is comprehended in the universe or not. If it is, how can it be excluded from the logical context of the judgment, and that on merely technical grounds and without examination of its merits and defects? If it is not, how can a doctrine that fails to comprehend it, claim to be comprehensive of everything? Will it, desperately, be asserted that personality is unreal and negative and incapable of rational recognition, like evil, error, change and time? If so, is there any conceivable point at which inability to deal with the facts of experience begins to count *against* a rationalist philosophy?

I confess that I cannot imagine how the 'absolutist theory of knowledge' can possibly meet these difficulties (save by the struthious method), but I dare say it has by now grown so

accustomed to consort with impossibilities, that it no longer troubles to meet difficulties and that a few more will not matter. And I suspect that at bottom this is Mr. Bradley's opinion too, whenever the 'hardness' of his thinking has brought on one of his candid sceptical moods; though it is possible that regard for the feelings of the soft 'Idealists,' who are still anxious to believe (or make believe) that their theory tends to religious edification, may prevent him from ever making a full confession thereof. On the other hand, it no longer seems incredible that one of these days by a great resolve (or from sheer weariness) he will sacrifice all the contradictions and antinomies which have beset him all his life to his growing perception of the value of the Pragmatic Method, to which he has now definitely conceded science and every form of human activity except 'philosophy,' and of which he himself is glad to avail himself whenever, as in N.S., No. 71, he is really reasoning, and not merely 'contemplating' abstract 'ideals of thought'. His willingness to reconsider the problem of Error is certainly a good augury, and will probably yield further enlightenment.

III.—ON EVOLUTIONARY EMPIRICISM.¹

BY H. S. SHELTON.

I.

THE ancient controversy between intuitionism and the various forms of empiricism continually recurs in many departments of human thought. During the past few years the intuitionism of Kant has been subjected to a number of powerful attacks. Dr. Schiller,² for example, has called upon the followers of Kant to define their position more clearly in view of the rise of the various forms of metageometry, and in many other ways has subjected this form of intuitionism to very cogent criticism. At the present time the drift of a large number of thinkers appears to be in the direction of a form of empiricism, if not identical with that of Mill, at any rate not far removed from the opinions of that famous writer.

Another method of explaining on empirical lines the nature of necessary truths is the humanistic view, with which the name of Dr. Schiller³ is specially associated. This view asserts that the so-called necessity of a truth is largely a question of the human will that it shall be universal,⁴ a necessity which we may describe as primarily emotional and

¹ Some of the main ideas of the present essay originate from a study of the works of Herbert Spencer, a philosopher whose achievements are far too little recognised at the present time. While it is my desire in this manner to express indebtedness where it is due, this expression must not be understood to imply either that Spencer would have approved all the opinions expressed in the present essay or that I am in agreement with all the views expressed by Spencer relevant to this subject. These latter are scattered in various parts of his published work, and particularly in *General Analysis* and in the essay *Mill versus Hamilton*.

² *Humanism*, p. 84 *seq.*

³ Dr. Schiller appears to think that his postulate theory is very different from that of Mill, whose empiricism he attacks. This, however, is only true of some of the doubtful applications. Mill himself anticipated the idea of postulation and included it as an integral part of his theory (*Logic*, vol. i., p. 286).

⁴ *Axioms as Postulates*, paragraph 2.

only in a secondary sense intellectual. Thus a postulate, which may be to a large extent arbitrary, would attain to the rank of an axiom after prolonged proof of its practical success.

These ideas are, however, open to equally cogent objections. It is certainly not true that the axioms each of us assumes take their origin in our will that they shall be true, or that they are to us in the first place postulates. Nor is it always easy to point out that they serve any very pressing intellectual or practical necessity. It is very doubtful whether Euclid or any one else possessed a compelling desire that things which are equal to the same things should be equal to one another, moreover such an inquiry is totally irrelevant to the certainty of the axiom. Nor is it entirely correct to say that it is an axiom because it works. That an axiom ultimately works is a truism, but its axiomatic character is recognised before we have experience of its working; and its certainty, though subjective, is entirely independent of our volition. We do not postulate it and we may never formulate it, but we recognise it as a necessary truth immediately its meaning is clearly understood.

Several facts which, if properly understood, are fatal to the postulate theory, are admitted by Dr. Schiller. He asserts, for example, that logical and geometrical postulates were used long before they were reflected on scientifically and still longer before they were understood.¹ With a statement such as this, neither intuitionist nor evolutionary empiricist will be disposed to quarrel; but they will be inclined to object to the looseness of Dr. Schiller's terminology. A "postulate" which is never postulated, but which is continually used and so becomes self-evident immediately the mind is sufficiently developed to understand it, is so nearly allied to an *a priori* truth that the term postulate becomes inaccurate and misleading. Whatever cogency any such remarks may possess against "Absolute" apriorism, they have none against the individual apriorism but racial empiricism advocated in this essay; indeed I could readily utilise many of his arguments in further support of my own view.

Though the advocates of the various forms of empiricism can, on certain lines, put forward very powerful destructive arguments, their opponents, whether Neo-Kantians or others, have little difficulty in making an equally effective reply. The indubitable nature of certain truths cannot fully be explained by the assumption that we have postulated them, or that, with

¹ *Axioms as Postulates*, paragraph 48.

or without postulation, they have been found to have been invariably consistent with experience. To use a cogent illustration of Sigwart, it is not a sufficient explanation of our certainty of the proposition $2+1=3$ to show that we have invariably discovered that any three pebbles arranged *** can also be arranged * *. Let us take the example of the carpenter and his foot-rule. He measures and cuts a yard of timber and treats a second yard in a similar manner. He has no shadow of a doubt that the two yards will be equal to one another. This he cannot verify by direct experience, because he will always find, if he measures carefully enough, some fractional difference between the two.¹ All that experience can possibly verify is that, as he eliminates errors of measurement and other sources of inaccuracy, the length of the two yards will more and more approximate to equality. The axiom never is and never can be completely verified by practical experience, and we invariably explain any apparent exception that may occur in some other way for the simple reason that an exception to such an axiom is to our minds meaningless. Also, as we have already noted, it is highly probable that the carpenter will never have formulated to himself the axiom of quantity, the practical certainty of which he so arbitrarily and unconsciously assumes.

Any one who has attempted the task of making the euclidean geometry clear to a class of beginners will be struck by the same difficulty. For the purpose of making the practical truths distinctly understood, this reduction of everything to first principles is a cumbrous piece of machinery and an unmitigated nuisance. To the average mind, the reasoning is so much clearer if the axioms are not explicitly stated but tacitly assumed. If, by any chance, an intelligent child actually understands the meaning of an axiom, great is his wonder that all his life he has used and assumed it without knowing that so obvious a truth was capable of expression in such cumbrous and pedantic language. On matters of this kind, there is little doubt that, up to a certain point, the intuitionist can put together an unanswerable case. We need not think of such subjects as absolute space and time, but, if we do so, we are bound to think under certain forms and in a certain manner. The necessary truths are not the product of individual experience, but are self-evident to all as soon as their meaning is clearly grasped.

¹ Mill makes a reply to this objection and points out the logical value of proof by approximation (*Logic*, i., 268 footnote), but this begs the question. He does not deal with the point that apparent exceptions are invariably explained in an alternative manner.

We can thus readily see that all these current theories are open to very serious objections. It will therefore serve a useful purpose to remind the present generation of philosophers that neither the apriorism of Kant, the empiricism of Mill, nor the postulate theory of Schiller exhaust the possible alternatives. Owing to the application of the idea of evolution to the problems of the human mind, there is another theory which admits the *a priori* in the individual and yet ultimately explains all knowledge in terms of experience.

The first step in the elucidation of this theory must be to note the distinction between the world of percept and that of concept. The former is ultimate and primæval. In all probability since the first dawn of life, and possibly in inorganic matter itself, there is to be found some germ of sensation. In the widest sense of the word this is experience, and here there are no essential forms. For the flux of sensation and feeling there can be no *a priori*. This latter idea is only applicable in the world of concept. There are no necessary forms of sensation and of feeling though there may be necessary forms of intuition and of thought.

Without attempting to trace the order of mental evolution, we know that, in our own experience, it is only under abnormal conditions that we are ever directly conscious of the unordered flux of sensation. Unconsciously and subconsciously our sense impressions are arranged, analysed and tabulated under a multitude of concepts. We are not apparently conscious of patches of opacity and colour; all these are organised under definite forms, and the existences around us are apperceived as a multitude of concrete objects. So complete indeed is this organisation, that any residual unorganised or unexplained sensation is to us an occasion of annoyance and alarm. An unexplained sound or an unrecognised moving object puts us quickly on our guard, nor is our alarm quieted till this either ceases or is rationally explained.

While the conceptual element is thus so prominent in all ordinary recognition, so much so that only by psychological analysis can it be disentangled from directly presented sensation, in conscious memory and thought the conceptual element is still more prominent. As Spencer¹ so clearly pointed out, relations are much more readily remembered than particular sensations. We remember the relative position of the objects in a room more readily than the size or colour of any one of them, a melody more readily than the

¹ *Principles of Psychology*, i., 243.

pitch of any particular note. Memory is more retentive of the conceptualised abstractions than of the more concrete and simpler sensations. As thought becomes more developed, these concepts become more and more abstract, further and further removed from the primary sensations of which they are ultimately composed.¹ Here is the ground of the *a priori*. It is only in the world of the most abstract concept, in the sphere farthest removed, not only from primary sensations and feelings, but from those conceptual forms under which we naturally and inevitably apperceive all that we see, feel or hear, that any form of apriorism is possible. Thus we can conceive a limit to the world in which we live, to the numbers of the stars, to the ether which transmits their light, but none to space, an abstraction which we have never seen nor known. We can conceive, indeed we inevitably look for, a beginning and an end to all temporal existence, to all the forms and things we see around us, but, as we strip from all existence that which makes it intelligible or recognisable, in the sphere of the ultimate and shadowy abstractions of absolute time (and possibly of energy and inertia), we can conceive no beginning and no end.

Of no material objects is it *a priori* impossible that they may differ in size or shape, yet, in the world of concept, when we have asserted that two objects are severally equal to a third, we are unable to conceive their differing from one another. Thus it appears that, if we think at all, we are of necessity bound to think under certain forms. There is in the very structure of our thought something which compels us to organise our experience in a certain manner.

On the other hand, we must note the certain fact that all thinking beings do not reach the level of abstraction in which the *a priori* is to be found, that millions never know and possibly are incapable of appreciating the axiom of quantity or the ideas of absolute space or time. Thus we obtain the paradox that the *a priori* is inevitable and universal, yet understood by few, a necessary form of thought, yet difficult to disentangle. We are absolutely certain that certain truths are necessary and that certain forms of thought are *a priori*, yet generations of philosophers may wage interminable arguments as to exactly what they are.

¹ Let me guard myself here against any critic who may wish to raise a side-issue at this point and to accuse me of epistemological "atomism". Any atomism which is here asserted is a matter of fact pure and simple. As the experimental psychologists have proved, all human experience is in some way made up of feeling and sensation, how and why I do not attempt to explain.

This difficulty in the problem of the *a priori* must be clearly and definitely faced. It is not a solution to say, with certain followers of Kant, that the apriority of any given truth or axiom is not a question of apodeictic certainty, but can only be proved by observing the consequences of denying the axiom. This procedure is an excellent method of discovering what concepts are truly *a priori*; but it should be noted that this is merely appealing from one form of apodeictic certainty to another. Each step in the reasoning can only be accepted in so far as we are certain that each successive proposition follows from its premises. Ultimately, in some form or other, the *a priori* is a question of apodeictic certainty, and from this criterion there is no appeal.

This problem of *a priori* certainty is specially noteworthy in view of the fact that the special characteristic of our reasoning power is its great mobility. Unlike primitive instinct, which only reacts in harmony with a specialised environment, our system of concepts is so mobile that, as we have already seen, it is impossible to mention any concrete happening in the material world that is to us *a priori* impossible. That our country may be suddenly engulfed by the devouring sea, that the Sun may cease to give out light and heat, that our friend whom we buried years ago may return to us in the flesh, that a human shadow may attain independence and may develop into a man, are events so far removed from the common order of nature, that we may surely say no generation of mankind has ever witnessed them; yet, so far are these from being *a priori* impossible, that accounts of such happenings are continually found in myths and fairy tales. So fluid are our concepts that, impossible as we should practically term them all, some way might be found of admitting them as theoretically possible without doing violence to the laws of thought.

This characteristic of human thought, the combination of practical mobility with the iron rigidity of logical necessity, is not to be explained by denying to our system of concepts the quality of objectivity and the placing them in the category of conventions and practical expedients. Conceptual and perceptual elements are inextricably intermingled in all the affairs of everyday life and in all the investigations of physical science. To deny the objectivity of our concepts, their correspondence to external reality, is to reduce not only philosophy, but science and common sense, to confusion, and to undo all that has been accomplished in the evolution of the race. We must therefore put on one side the "conceptual shorthand" view of theoretic truth. It is a very easy and

a very plausible suggestion to say with some logicians¹ that scientific generalisations (and *a fortiori* physical and geometrical axioms) are merely the conceptual shorthand apparatus by which we can summarise the happenings in the world around us. According to this view, the law of gravitation is not a statement of the truth that one particle of matter attracts another particle of matter in a certain manner, but merely a piece of conceptual apparatus enabling us to predict the motion of the Sun and of the planets. This is particularly plausible because it is a patent fact that the law of gravitation does accomplish this purpose and also because, in science, we continually use working hypotheses which can correctly be described in this manner. These latter we can rationally explain by saying that they contain sufficient truth to make them workable, but sufficient error to make them untrue. The conceptual shorthand view of truth, if carried to its logical conclusion, implies that, not only the law of gravitation, but the statement that Jupiter is a planet revolving round the Sun or that a book has just fallen to the ground are merely conceptual shorthand explaining a certain presented series of sights, sounds and feelings. Such a view, if logically carried out, reduces all existence to the primitive flux.

It is not relevant to the scope of this essay to enter further into these epistemological controversies, but it is clear that, to obtain a firm starting-point for an investigation of the *a priori*, we must establish some kind of objectivity corresponding to our system of concepts. Unless we proceed on the assumption that, by means of our conceptual apparatus, we obtain an objective truth which is independent of our own personal idiosyncrasies and psychological peculiarities and that, so far as we succeed in eliminating error, this truth is independent of our own will and emotions, the problem of the *a priori* is scarcely worth discussing. Though practical needs and human will and interests may thus determine which truths we discover and which we ignore, we are inevitably bound to assume that these are in some way existent prior to our discovery.

Leaving therefore on one side these metaphysical discussions, we can sum up our starting-point in the following three brief propositions:—

(1) That in all our knowledge the perceptual and the conceptual elements are inextricably entangled.

(2) That, so far as we succeed in eliminating error, the

¹ The originator of this particular view is, I believe, Prof. Karl Pearson see *Grammar of Science*, 2nd edition, pp. 85-87).

conceptual abstractions correspond to definite concrete reality and that this correspondence does not necessarily decrease with the degree of the abstraction.

(3) That some of these concepts are *a priori* to the experience of the individual.

The antinomies and paradoxes apparently involved in these statements can be clearly explained immediately we regard the faculties of life and mind from the standpoint of evolution. Whatever may be the ultimate purpose of the human intellect, there can be no doubt of its evolutionary meaning. Regarded in this light, human thought and reason becomes a specialised method of the animal man in adapting himself to his environment. This power of reason, of apperceiving and forecasting the character of his surroundings by means of concepts, gives him an incalculable advantage over his competitors in the struggle for existence. According to this evolutionary view, our minds, like our bodies, have been evolved by the continual contact of innumerable ancestral forms with the world in which we live. Owing to this process of mental evolution, man, from his earliest childhood, is not conscious of the unordered flux of sensation. Indeed, none but philosophers are aware that such a thing exists. So soon as external existence begins to make any sensible impression on the mind of a child, so soon that is as it begins to "take notice," these are integrated and organised as objects which require further investigation. We bring with us, as a product of our inheritance, an irresistible tendency to organise our experience in a certain way. The same is true of other forms of our concepts, and, according to the view expressed by this essay, is true also of those axioms which are termed by the older philosophers *a priori*.

We thus conceive space and time in a certain manner, we know that things equal to the same thing are themselves equal, that $2+2=4$, not merely because we have found them to be invariably consistent with our experience, not merely because our reason assures us that our experience of extended being can only be co-ordinated as existing in an infinite entity which we call space or that our experience of succession is to us only explicable as a part of an everlasting entity we call time, not because we have postulated these and found them to work, but because objective reality corresponding to these concepts, has reacted on the innumerable series of ancestral forms dating back possibly to the earliest forms of life. These truths are *a priori* and inherited in the individual, but are the product of the experience of the race.

Such is the broad outline of the theory of evolutionary empiricism. It is one which, if properly understood, is open to none of the objections which can so readily be urged against its rivals. At first sight, however, it might appear that it is involved in certain special difficulties of its own, which, before we go further, it will be convenient to notice and remove.

The first is an outcome of modern ideas of heredity. As our present theory regards human faculties from a biological standpoint, we are bound to consider it in relation to modern biology. The tendency of present-day biological theory appears to lie in the direction of explaining all human faculties and characteristics by the aid of natural selection. Owing to the widespread acceptance of Weismannism in the biological world, many authorities are disposed to refuse to credit any theory which implies the assumption of any form of use-inheritance. If, then, we accept natural selection as the all-sufficient cause of human faculties and of human societies, we can readily understand that this would account for a general increase in mental power, but it is more difficult to picture to ourselves how particular forms of intuition can become inheritable in the race. Fortunately here we are enabled to dispense with theory when we remember that our earliest tendencies to classify the product of our sensations as objects and things are certainly inherited, as is also the general order of the development of our mental powers. Nevertheless, this particular problem of heredity will obtrude itself.

In reply to this difficulty, if there were no other solution, I, personally, should immediately cut the knot by asserting that these results are not purely the product of natural selection. Though it is an obvious fact of experience that specific acquired qualities, whether physical or mental, are not inherited in the offspring to any considerable extent, I am of opinion that this non-inheritance is not absolute. If this be so, the course of evolution is clear. Ideas which, in the continual succession of organic forms, are invariably consistent with the experience of external nature, would thus produce a corresponding change in brain structure and, through this change, when in course of time the continual succession of faint inheritances adds up to an absolute change, would become a fixed possession of the species man. Natural selection appears to me to be necessary, not to account for the inheritance of brain structure rendering certain ideas *a priori*, but for the fact that this apriority is so small in amount. Whether this be so or not, it would be superfluous

to remind philosophical readers how necessary it is, in investigating its bearing on psychology and philosophy, to preserve an open mind on this matter, which is now in danger of becoming a biological dogma.

It should, however, be clearly noted that the theory of evolutionary empiricism is not bound up with any particular theory of evolution. If, as a section of biologists appear to think, all human characteristics and progress are to be accounted for in terms of some form of Natural Selection, it is easy to point out that the difficulties here are not greater than elsewhere. If natural selection will account for the majority of vertebrates possessing five digits on each limb, instead of four or six, for the variations in the sensitiveness of the human skin, for the production of lank hair in the Mongol and of woolly hair in the negro, it would surely account for a congenital change in brain structure, which would make certain ideas, invariably consistent with experience, organic in the race.

Another objection of a more metaphysical character is somewhat more difficult to surmount. The conception of the apriority of ideas in the individual due to the action of evolutionary forces does not at first sight appear to imply that this apriority is any guarantee of what we may term absolute truth. We can imagine, for example, that it might be subjectively inconceivable that things equal to the same things should be unequal and yet that this subjective impossibility might actually be a property of objective reality. Playfair's axiom might then be *a priori* and yet space non-euclidean. A metaphysical problem of this kind can never be completely solved, it is only possible to show that this particular example of speculative scepticism can be shown to be less valid against evolutionary empiricism than against any other explanation of necessary truths.

In the first place, we must note that these *a priori* forms of thought and necessary truths are very few, and that empirical continuity through the course of many generations is insufficient to form apriority in the human mind. Generations of men have pointed their course through the desert by the light of the polar star, the Sun and the Moon have given their light to the world since the dawn of earthly time; yet, in our minds, we have no *a priori* certainty that the future will disclose to the eyes of the watcher Sun, Moon, or stars. The truths which are *a priori* must correspond to happenings in the Universe more constant, more invariable, more certain, truer than any empirical truth based on the conscious obser-

vations of mankind. That any idea should become *a priori* that did not invariably work in practice would be fatal to the survival of the individual and the race. That the essential nature of intellect is its mobility, its adaptability to meet all conditions, makes it all the more striking when we find our minds are so constituted that we are unable to conceive certain forms of existence in any other than a certain definite mode.

Though the metaphysical difficulty cannot be surmounted entirely, it is to a large extent dispelled by our comprehension of evolution. While the hypothesis of pure empiricism gives us no guarantee of the truth of our fundamental conceptions, while, according to the humanistic view, they are purely postulates (very possibly false) on which we proceed till we find empirical proof of their practical working, while the Kantian view asserts their quality as a property of the mind and gives no further explanation, the conception of evolutionary empiricism, though it gives no guarantee of absolute truth, confirms our intuitive certainty that they at least are bed rock, more certain and more fundamental than any other portion of our human knowledge. It should also be noted that the acceptance of the idea of evolutionary empiricism in no way robs the metaphysician of any weapon he is accustomed to use against the philosophic sceptic. If he is accustomed to say that the query regarding absolute truth is meaningless and that the terms truth and reality have no meaning apart from human experience, he is still entitled to use the same argument. His argument is as valid or as invalid as if he proceeded from some rival epistemological theory. Evolutionary empiricism extends the meaning of the term Experience but affects the metaphysical problem in no other way.

So far we have regarded apriority statically and, to avoid unnecessary controversy, have confined our examples to the fundamental concepts of space and time and to the axiom of quantity. It is, however, an admitted fact that the truths which are recognised as necessary will vary with the time, place and conditions of knowledge. New *a priori* truths are continually being recognised. It may occasionally happen that some ideas, mistaken for *a priori* truths, may ultimately be abandoned as false. We must now examine this dynamic aspect and see in what way this progressive character can be accounted for by the explanation of evolutionary empiricism.

II.

To accomplish this we must consider our topic subjectively. Though we have emphasised that innate *a priori* ideas can only be so because they correspond to some objective reality, we must not lose sight of the fact that there are no ideas and consequently no *a priori* independent of the recipient mind. This human mind is itself a product of evolution. Both in the history of the race and in the development of the individual it has passed through certain stages and it is only by an examination of these stages that we can understand the process by which these truths become recognised.

This process itself has two sides. That our ideas are in some way a complex of our sensations and our feelings is a commonplace of modern experimental psychology. Therefore, to investigate the origin of any particular succession of ideas, we have in theory two processes which are themselves subject to change: the receipt of sense impressions by perception and the classification of ideas by reflection. Every individual and every generation is continually receiving new sense impressions and thus forming new groundwork for the raw material of thought, and every individual is, to a greater or less extent, classifying his thoughts and discovering and testing truth by the process of reflection.

For the purposes of this discussion the latter only is immediately practical. Though, by the researches of modern science and in other ways, we are continually being brought into contact with fresh material fact and, by this extension of the object of sensation, it is theoretically possible that other truths may ultimately become *a priori*, we must recognise that this is only a remote possibility bearing on the far distant future. In no ordinary finite time is it likely that the product of such will become organic in the race. We must therefore take these sense-impressions as approximately a fixed quantity and confine our attention to the development of the process of conscious reflection.

We have already recognised the fact that axioms are practically used before they are theoretically recognised. Long before any philosopher formulated the fundamental axiom of quantity, carpenters used the rule and merchants used the balance. The *a priori* truths which the philosopher consciously formulates are used instinctively by the common man. They are inherent in the experience of the race as expressed by action. The process of conscious philosophic thought is thus the abstraction from the content of our ex-

perience of those fundamental truths of which instinctively all are dimly conscious.

An example of a truth now universally recognised, which, I maintain, is *a priori* to our individual experience, and yet the recognition of which is an event of recent history, will be found in the Law of Inertia. As Prof. Poincaré so clearly points out, so far from this having been universally recognised as true during the course of human thought, it was categorically denied by the Greeks¹ who believed that motion ceased with the cause of motion or that bodies, when left to themselves, would move in a circle, the most perfect of all forms of motion. For this and for a number of other reasons he argues that the principle cannot be *a priori*.

It is perfectly clear that such an objection, if valid, is fatal to all forms of apriorism. If it were essential that, in the conscious formulation of a truth, there should be no possibility of human error, no principle could be *a priori*. No doubt many an unhappy schoolboy has said and written in all good faith that things which are equal to the same things are unequal to one another. At the same time Prof. Poincaré is the first to state clearly and explicitly that the principle will never be abandoned or amended by subsequent experiment.² Now this, it appears to me, is equivalent to saying that it is *a priori*. If a principle is not subject to amendment or correction by subsequent experiment, this is equivalent to saying that we necessarily assume it in the explanation of any known phenomenon and this is (in the sense used in the present essay) the same as asserting that it is *a priori*.

If we discovered the motion of any body ceasing without apparent cause, we should thereupon search for the retarding agency. If, for example, the velocity of the planet Neptune gradually decreased, we should thereupon postulate a resisting medium, or another attracting agency, or some force acting upon it of which we were not aware. We could not do otherwise. If generations of scientists failed to discover the cause of this strange phenomenon and if such occurrences were continually repeated, we should not deny the law of inertia, we should be bound to say that the solar system contained forces of which we were unaware.

In this particular case, it is not difficult for us to understand in what manner this principle can become inherent in the experience of the race. No doubt Greek philosophers did put together a meaningless form of words and say that

¹ *Science and Hypothesis*, p. 91.

² *Ibid.*, p. 95.

motion ceased with the cause of motion. It is possible to put together words and sentences and to become convinced that these convey an intelligible meaning. In this case it is perfectly clear that the philosophers did not clearly represent to themselves the terms of the relation that they attempted to express.

Neither the Greeks nor any one else at any time, in any real sense of the word, believed that motion ceased with the cause of motion. A Greek who watched a boulder, which, after falling rapidly down a hillside, had just reached the level, would not act as if its motion would suddenly cease. He would not place his limbs in running in the new and eccentric attitude required by his peculiar philosophical theories, nor would he hold himself as a target for the arrows of his enemies or cease to draw a bow or throw a javelin. By countless actions such as these, the principle of inertia has become a part of the instinctive and subconscious experience of the race and this, *when it is correctly interpreted in terms of abstract thought*, gives us an *a priori* principle.

The conscious formation of these principles is an intellectual process. Here there is room for postulation. In all processes of human thought there are possibilities of human error. It is theoretically possible, though practically very improbable, that even now the principle of inertia may not be stated in words which will defy the criticism of the future. But the meaning is more fundamental than the verbal form, the thing is more essential than the name. Whatever may be the future discoveries of science, we can be quite sure that the principle of inertia, possibly not perfectly expressed or fully understood, *contains* an essential *a priori* truth.

A similar treatment is applicable to the axiom of parallels. On the nature of this axiom geometrical experts differ widely. Prof. Poincaré treats this in the same manner as he treats the law of inertia. He carefully explains that it is not based on experiment or observation. It is clearly not an empirical law.¹ He definitely asserts that the euclidean geometry has nothing to fear from fresh experiments. He comes to the conclusion that they are neither synthetic *a priori* intuitions nor experimental facts. They are conventions, definitions in disguise. "One geometry is not more true than another, it can only be more convenient."

¹ See *Science and Hypothesis*, pp. 73-75, particularly the following passage: "I challenge any one to give me a concrete experiment which can be interpreted in the euclidean system, and which cannot be interpreted in the system of Lobatchewsky".

On the other hand, Mr. Bertrand Russell, both in his earlier and in his later works, maintains that this axiom is purely empirical¹ and (as other systems of geometry give results not empirically distinguishable from those of Euclid) quite possibly false. It is only fair to say, however, that the positive work of this latter author is no way bound up with this particular opinion.²

It is of course a matter of common knowledge that geometries can be built up based on a denial of Playfair's axiom and that these systems are logically self-consistent. (How an individual who denies the existence of any form of apriorism can explain this logical certainty is not easy to understand.) Certain conclusions follow necessarily from certain premises. But this is not the point with which we are here concerned. The exact meaning and value of the non-euclidean geometries is not relevant to the present discussion. What we have to decide is whether our fundamental concepts of space are consistent with any other idea of parallels than the euclidean. If we can show that it is not we shall show that the axiom of parallels is *a priori*. Of this there can be little doubt. In spherical space a "straight" line returns on itself. But then the line is not straight. We are immediately impelled to ask what exists outside this enormous circle. The consciousness of this limit is inseparably bound up with the consciousness of a space outside the limit. The same is true of hyperbolic space. In this space "parallel" lines get further and further apart. But then they are not parallel. We are immediately impelled to ask why we cannot draw straight lines which continually maintain the same distance. We can readily picture to ourselves that any material line (such as the path of a ray of light) may bend in any conceivable manner. There may be in the ether of space some property which twists and bends any material line we can draw. But this is matter not space. As the ether of space might equally well be so constructed as to render invalid the axiom of free mobility and so invalidate the practical certainty of all forms of geometry whatsoever. Even then we should be compelled to believe that, when the material substance was removed, there would remain the space in which euclidean geometry would be true.

Here we have an answer to Prof. Poincaré. I would submit that, in such a case as the one here suggested, for the purposes of astronomy, euclidean geometry would probably not be the most convenient; but we could not extinguish

¹ *Principles of Mathematics*, p. 458.

² *Ibid.*, p. 373.

from our minds the consciousness that euclidean geometry was true.

The difficulty with regard to this particular axiom has always appeared to me to be one of statement rather than of substance. The complicated fifth postulate of Euclid is certainly not axiomatic. From this point of view, Playfair's axiom is a great improvement. The meaning is the same but the verbal form is greatly improved. This has been accepted as *a priori* by many eminent mathematicians including Cayley. That there still remains any possible doubt on this matter appears to me to be due to the fact that greater lucidity of statement is still to be achieved.

This is the function of reflective thought. Our fundamental ideas must be disentangled from all unessential ideas and the terms of the relation must be so stated that, when once their meaning is clearly grasped, no doubt is possible.

The preceding exposition will show the advantage of this theory over rival explanations. With the Kantians it admits the apriority of certain ideas to the experience of the individual. With the empiricists it ultimately explains all knowledge in terms of experience. With the humanist, it admits the importance of postulation and the progressive character of axioms and necessary truths. It differs, however, from these latter in that it refers this mental process to the subjective side of being and in that it gives a truer account of the process by which necessary truths become recognised. According to this view, no amount of individual and empirical experience of its working qualities can raise a postulate to the rank of an axiom. The truth must be stated in such a manner that, to those who have clearly grasped its meaning, the contradictory is unthinkable.

A cogent example of this difference is found in the treatment of ethical and religious postulates. Dr. Schiller attempts to show that these are axioms which have not yet received canonisation. According to the view of evolutionary empiricism, there is no reason to assert that ethical and religious axioms may not yet be disentangled from the multitudinous confusion of human thought. But the future ethical Newton must so state his axiom as to show that its acceptance is organic in the very nature of human thought. If he can do that, we shall be able once more to enlarge our conception of individual *a priori* truths.

Against the view expressed in these pages it may be urged that epistemological and metaphysical problems are yet unsolved. They are. No attempt is made to solve them.

No such attempt would be relevant. How and why the mind can abstract concepts which correspond with concrete reality is a fascinating problem, but, for the purposes of the present essay, it is sufficient to assert that we know it does. To describe this process in detail would require a new critique of human reason.

As we have already seen, the problem as to whether our *a priori* ideas are in an absolute sense true is also unsolved. All that evolutionary empiricism can assert is that they are of necessity truer than any other. Their making requires the whole faculties of man and the inherited experience of the race, not merely the intellectual powers of any set of individuals. Metaphysical problems are unsolved, they are merely removed one stage further back.

The object of the present essay will be achieved if it succeeds in enlarging the conception of human experience and in bringing before the philosophic world a valuable idea which the present generation appears to have forgotten.

IV.—ASSOCIATION AND ÆSTHETIC PERCEPTION.

BY J. SHAWCROSS.

My aim in the following pages is to show in what manner, if in any, the mental processes comprised under the term association are active in the perception of what is beautiful, and how far the knowledge of these processes can help us to an understanding of beauty in nature and in art. By an understanding I mean, not the capacity for enjoying beauty, but that insight into its nature which comes from reflexion and analysis.

I. CERTAIN FEATURES OF ASSOCIATION.

In this section I wish briefly to draw attention to certain features of the phenomena of association which, though not all of equal importance for the psychologist, are pertinent to the present discussion. Psychology has shown that the apparent variety of modes under which the principle of association operates can be reduced to the single mode of contiguity, or continuity of interest. But a distinction still remains in respect of the extent, and again of its intensity, of its operation. It is evident that whereas some associations are, so to speak, the common possession of the whole human race, or of large groups of it, others are confined to the experience of a single individual, and that between these extremes an infinite gradation is possible. In respect, again, of their intensity, or let us rather say of their permanence, associations differ widely. In some cases, the power of self-reproduction soon fails; in others, it persists through a lifetime.

To this distinction in respect of universality and permanence between different associations corresponds a distinction in the nature of their causes. Every ideal reproduction is founded, as we know, on some real or external connexion of circumstances. This external connexion may be part of the natural order of things (as in the case of smoke and fire), or it may be arti-

ficial, an invention of the human mind (as in the connexion of words and other symbols with that for which they stand). Now it is evident that that characteristic of universality, of which we have just spoken, can only attach to associations which are founded on universal experiences; on experiences, that is, which inevitably befall the individual as a member of the human race or of a definite section of it. As to the other characteristic, that of permanence, this evidently depends upon two conditions in the original experience—its strength, and its frequency. A single experience, if it has been singularly strong and vivid, may be the basis of a permanent association. If, on the other hand, the original experience has been transient or insignificant, it must be repeated with considerable frequency before it can give rise to a firmly established association. Now these conditions of vividness and frequency are both of them more likely to be fulfilled by experiences which are universal (in the sense indicated above) than by such as are contingent and individual. Frequency and regularity of occurrence can only be guaranteed in experiences whose root is in the natural order of things, such as our experience of the sequence of night upon day. Vividness, again, and impressiveness are especially characteristic of our fundamental experiences as human beings. It appears, therefore, upon the whole, that the more universal and permanent a mental association is, the greater the probability that it rests upon a general and deeply significant human experience.

My purpose in thus insisting upon what may seem a self-evident truth will, I hope, appear later. At present I would remind the reader that my chief aim, in examining the phenomena of association, is to discover its function in that particular species of human intercommunication which we term art. Now it is evident that all communication, in the child as in the adult, in the savage as in the civilised man, depends upon and presupposes the existence, in the minds of those communicating, of a like experience, and, on the whole, of a like sequence and connexion of images and impressions. It presupposes further, that the medium of communication will possess a like significance for both in relation to that experience. In the earliest stages of human society, before the invention of the written or spoken word, man was confined to an actual imitation of the specific experience which he wished to communicate. Instead of words, pictures of the object, for which, later, words came to stand, were employed; instead of speech, the actual sounds which were connected by a natural relation with the emotions to be expressed.

This mode of communication, it may be remarked, is still to be seen in the animal world; the sounds, which danger would spontaneously force them to express, animals use deliberately to communicate to their fellows the presence of danger. But man by a natural instinct soon replaced this clumsy and laborious method of communication by one more simple and more economical. For the purpose of the speaker in the vast majority of cases being, as thought progressed, not to call up a distinct image of particular objects or definite sense-impressions, but rather of the general qualities and relations of objects, or of a certain aspect of particular objects, it is obviously a superfluous, if not an inadequate proceeding, to call up distinct and complete images before the mind. Hence names were invented which suggested just so much or so little of the thing they stood for as it was the purpose of the narrator to suggest. The next step was a further advance in abstraction, when thought became fitted to deal with general qualities and relations. Here the need of definite sensuous images was evidently less felt than ever. But as man's power of expression always lags behind the growth of the inner life which demands its exercise, words, whose primary function was to express a concrete image, are pressed into the service of abstract thought. This is the concrete or poetic stage of speech, which leaves its marks upon a language long after it has passed away. Finally, as thought becomes more and more abstract in its processes, language becomes more abstract also, until the single words which convey a definite image dwindle to a small and insignificant class. Not that the words themselves actually change their forms to meet the new needs of expression; but these forms are invested with a new significance. Hence the highly civilised speaker or writer, who wishes to call up a distinct image in some degree approaching reality in its concrete details, is obliged to employ a large number of words, each expressing abstract qualities, and to depend upon his hearer's power of combining them in a single object. For the purposes of ordinary intercourse, however, this is rarely necessary. For in thinking and communicating our thoughts we are concerned either with particular aspects of objects or with that which is general and typical in them; in either case we idealise the object by abstraction, and it is unessential to our purpose to form in our own minds or in our hearer's a definite picture of individual things or experiences. One species of human intercourse, however, there is, the purposes of which cannot be adequately attained save through the medium of concrete and sensible impressions. I speak

of art and of artistic communication in the largest sense ; these by their very character demand in less or greater fulness of detail, an ideal reproduction of the world of our experience. It is with regard to this specific form of communication that we have to consider how far, and in what manner, it is indebted to associative processes for the attainment of its ends.

II. ARTISTIC EXPRESSION.

First, however, we are constrained to ask ourselves, what the ends in question may be. And the problem thus proposed necessarily brings us face to face with the larger problem of beauty, its nature and constitution. But to consider this problem, even in outline, would take us too far afield. I propose, therefore, to assume the correctness of the generally received definition of beauty, considered as a quality of the object—namely, that it is the sensuous or material expression of an immaterial content. This definition, though incomplete, is sufficient for my present object ; nor will I attempt to determine it further, either in respect of the content (*e.g.*, by inquiring whether any or every content is susceptible of æsthetic presentation) or in respect of the form (*e.g.*, by considering under what limitations of form the sensuous presentation deserves the name of beautiful). The sole point which here concerns us is the nature of the relationship between form and content, the question, that is, of the means or manner of expression. Granted that the artist's object is to convey a particular modification of our inward life, is it indifferent what means he adopts to this end, so long as he succeeds in fulfilling it ?

In such an activity as this, where no moral principle is directly involved, it seems evident that the means are justified by the end, and by that alone. But let us examine more closely the nature of the end. It is not enough to say that the artist wishes to convey to, or set before, those whom he addresses, certain spiritual experiences. His aim is above all things so to communicate those experiences that others shall be able to share, that is, to feel them and live in them. To this end they must do more than recognise the truth of these experiences, or reflect upon them as objects of knowledge : they must identify themselves with these objects, and know them by becoming them. But this is only possible through an unconscious and unreflective act, an act of imagination, enabling them to pass from the object to the life which it presents, or rather, in the contemplation of the ob-

ject, to become one with that life. The question therefore arises, whether all forms of sensuous presentation of an ideal content will fulfil these conditions, and so serve as the medium of genuine æsthetic enjoyment. But, it may be asked, fulfil them for *whom*? That which is art, and capable of affording artistic pleasure to one, is not, we know, art to another. This apparent difficulty need not concern us now. For although this pleasure may be excited in different persons by different objects and in different degrees by the same object, according to the degree of their natural sensibility and artistic training, the mode in which the process is affected is not subject to the same variation; it is identical for all. Our problem therefore is to examine the various modes in which an inward life is sensibly expressed, and decide how far each of them is capable of arousing true æsthetic pleasure; then further to consider, with regard to these genuine instances of such pleasure, how far their effect is due to processes of association.

A broad basis for our classification is suggested at the outset by the distinction of natural and artistic expression. By natural expression I do not here mean merely expression through natural forms (for this may be artistic); but the unconscious revelation of the inward life by gesture, motion, play of features. Can such expression, we may ask, ever deserve the epithet beautiful? Here we are reminded of our indispensable subjective test of beauty. Submitted to this test, the question becomes, "Can we derive a genuine æsthetic pleasure in contemplating the natural expression of life?" Such a question seems at first sight only to admit of one answer: we can, and, if we have a trained eye and vivid perception, we do constantly derive such pleasure from the thousand modes in which Nature is continually manifesting herself to our eyes. But is this pleasure only æsthetic? Is it identical in kind with the emotion which the same vital content, artistically represented in colour or marble, would excite? The answer is, that it may or may not be. We are capable of an ideal, æsthetic interest in the actual life around us, but only so far as by an effort of the imagination we abstract from its reality, and raise it to the plane of the ideal. This is easy where the life represented is itself pleasurable, but the expression of sorrow or pain, which in art is not only admissible but is often the source of the highest beauty, cannot please us in actual life without our doing violence to our own natures. Such an attitude, not only to particular experiences, but to life as a whole, is indeed possible, and most of us have seen examples of it in the range

of our own experiences ; but it is essentially false, and points not only to callousness of heart, but to a narrowness of intellectual sympathy which confuses the real and the imaginative spheres of being. Under these limitations, however, natural expression may be and often is beautiful : indeed, we may go so far as to assert that all self-expression of a healthy, freely and normally developed life *must* be beautiful, and capable of arousing the feeling of beauty. Now it is evident that in all examples of this kind of beauty the relation between form and content is of the most direct and intimate nature possible ; for the one is the inevitable effect of the other, and they are bound by the law of natural causation. In the same way and for the same reason, our recognition of this expression, our comprehension of its meaning, is peculiarly remarkable for its directness and universal spontaneity. For this is the language of universal Nature, and must needs be understood of all her children.

Hence it is that of all modes of expression, that which the artist most frequently adopts is founded upon this natural relation of spiritual or vital content and expressive form ; more especially in the human face and frame. Here his aim is to outdo, as it were, the expressiveness of Nature, in his imitations of her, or rather to exhibit the expressive possibilities which lie in natural forms and motions. This end the artist achieves as much by the omission of what is irrelevant, as by the accentuation of what is essential. Hence the charm of his imitation lies in its entire adequacy, its ultra-significance. But there is another kind of imitation of these naturally expressive forms, in which imagination, perceptive now and not creative, allows herself a far wider scope and a remoter degree of likeness. I speak here of Nature's imitation of human life, through incidental resemblances of form, colour, or motion ; an imitation upon which much, if not all, of our æsthetic pleasure in natural objects is founded. In virtue of these resemblances man is able to project his being into the objects of animate and even of inanimate nature, and live in imagination the life whose language seems written upon their external features. Nor is it necessary that the emotional life thus presented should be pleasurable. The sighing of the breeze of evening, the sullen roar of breakers on a wind-swept coast, a scarred and battered tree, may all be equally capable of affording genuine æsthetic pleasure, though the experiences which they suggest are such as in actual life we should instinctively fear and avoid. For what we seek in art is a presentation of life in all its aspects, its sorrow and tragedy as well as its joy and laughter ; and the

truth of the line, "Our sweetest songs are those that tell of saddest thought," holds good for every sphere of imaginative experience. All we demand is that the particular presentation should be charged with a deep and universal significance, or at least should be capable of taking on that significance. This capability is insured, in the case of artistic creations, by the imitative skill of the artist; in natural forms it is insured by an incidental resemblance, aided by the idealising power of the imagination. But in both cases the relation of expressing form to content expressed is one and the same, it is the relationship of cause and effect, which exists, as we have seen, in all natural expression, and which is here the object of imitation.

Is there then, we may now inquire, any other relationship besides this of cause and effect, actual or imitated, which fulfils the conditions of artistic or imaginative expression? A further consideration of the beauty in natural objects may help us to an answer. For the most part, as we saw, this beauty resides in their power of imitating natural expression. But there are instances, I believe, where natural objects please us for what they express, and yet are not directly expressive in the sense we have hitherto considered. It may be, however, that the distinction is only apparent. What is it that delights us in the glassy calmness of a hill-bound lake, or in the bold upward thrust of a mountain peak? Such cases seem, in truth, to admit of a twofold interpretation. The observer transfers himself, in imagination, into the physical position of lake, or mountain, or attributes to them the power of consciousness, and thus enjoys the emotions attendant in the one case on perfect restfulness, in the other on strenuous aspiration. Or a more remote relationship, the subtle parallelism of physical and spiritual energies, is at the root of their expressiveness; the calm lake symbolises the calm of the spirit, as the ascending mountain symbolises its aspirations; and this by virtue of that mysterious analogy of the material and immaterial, our consciousness of which not only evinces itself in the daily use of figure and metaphor, but pervades all allegory and symbolism, and underlies every effort to make real and intelligible to ourselves the facts of our immaterial life.

In neither of these interpretations does the principle of what we have called natural expression enter directly. The first of them, indeed, seems founded on a reversal of that relationship. In the case of natural expression the emotional state or activity precedes, as we saw, and determines the outward state. Joy, anger, elation, depression, youth and age, strength

and weakness all bring with them their corresponding outward or physical modifications. But it is evident that a physical state or modification whose cause lies, perhaps, outside the individual experiencing it, will, in its turn, give rise inevitably to a corresponding inward change. The various mental states connected with the various physical movements, or again with entire absence of movement, furnish the illustration most apt for our purpose. For to take the two instances of natural beauty last discussed, the sleeping pool and soaring mountain are beautiful, not because they directly express a mental state, but by their suggestion of certain physical conditions, in the one case of rest, in the other of upward motion, and the pleasurable psychical state which is inseparably bound up with either of these, and which may be purely sensuous, or of a higher nature¹ (*e.g.* the sense of freedom attending uninterrupted progress).

We have thus discovered at least two varieties in the relation of form to content, and both within the sphere of strict natural beauty. Both of these fulfil the subjective conditions of æsthetic enjoyment; they admit, nay, invite and compel the observer to a self-identification with the life expressed, apart from any conscious effort of reflexion and comparison. Yet it is evident that the mental processes involved are not the same in either case. A consideration of their discrepancies may lead us to the question originally proposed, by showing to what extent the principle of association is present in either case.

III. THE FUNCTION OF ASSOCIATION.

Our power of interpreting facial and bodily expression is evidently not instinctive in us, but is the cumulative result of long processes, founded to a large degree on more or less frequent acts of observation and experience. It is in fact only a special case of memory, and like all memory, it rests upon the principle of association. But in the æsthetic interpretation of imitative forms, association is doubly active; first in recalling the human form which is imitated, secondly in attaching to that form the mental content which is by nature allied to it. Both acts are, or should be, spontaneous and unconscious. For so far as our apprehension of the re-

¹ The example of the smooth lake may indeed be taken as a case of direct expression, suggesting by actual physical resemblance the calmness of a human face. Coleridge's Winter wearing "on his smiling face a dream of Spring" favours this interpretation. But the soaring mountain, and all beauty of line and outline, seems to rest on the principle explained above.

semblance between the natural and human form (*e.g.* between a bent tree and a bowed human frame) involves an act of conscious comparison, our æsthetic pleasure in the object is incomplete; for this pleasure rests upon a complete self-identification of the observer with the life which he observes, with which the acts of conscious recognition of meaning must inevitably conflict. This recognition is therefore unconscious and independent of the will of the observer. From this it must not be inferred, however, that it is also independent of idiosyncrasies of mind and temperament. On the contrary, the power of perceiving those resemblances, and throwing ourselves into the life which they symbolise or suggest, varies incalculably in different individuals, according to the degree of imagination and sensibility with which they are gifted. And here the associative process is but the necessary condition, the machinery subservient to the activity of these higher powers, whose effects it is of itself no more competent to call into being than the lyre could of itself evoke the music which is conjured from it by the hand of genius.

Hitherto we have been discussing those species only of artistic expression, which are grounded upon a natural relation, or upon the mimicry of that relation. But there are other instances of objects possessing, or appearing to possess, the peculiar charm of beauty, in which the relationship of the sensuous form to the ideal content which it embodies is of another kind. With regard therefore to these, we have to consider first, whether their claim to beauty is spurious or not; secondly, if that claim gains our assent, to what extent the power of the form to express the spirit is due to mental association.

In our analysis of the phenomena of association in the first part of this paper, we saw that the association of ideas in the mind sometimes corresponded to a connexion of objects in Nature, but sometimes did not. On this account association is a not infrequent cause of delusions. If A and B constantly recur together in a man's mind, he is tempted to believe that *in rerum natura* also they are necessarily and universally connected. A further delusion is possible; not only is our apprehension of any particular outward experience necessarily very imperfect and fragmentary, but the image which it leaves behind on one mind will differ widely from that which it leaves behind on another. To one man the nightingale's song, heard among the most prosaic surroundings, will be inevitably reminiscent of all the witchery of a summer evening; the thrush's note will recall the hope and promise of the awakening spring. To another their charm

will consist in their power of simulating or directly expressing certain human emotions. To a third their notes may recall pleasures incident indeed to the season in which these birds are vocal, but pleasures of a kind wholly inartistic ; yet we cannot but say, that these pleasures come to them through, if not in, the music of the song. Now which of these three persons is partaking of a genuine æsthetic enjoyment ? or to put it otherwise, which of them do the songs please by virtue of their genuine quality of beauty ? That quality we defined, earlier in this paper, as the power of sensuous expression, agreeing, however, that the term *expression* in this definition needed to be qualified in certain ways, and that the surest test of this qualification being realized in any particular object was a subjective test, consisted, that is, in the capacity of the object to affect us in a certain manner. To return to our example. In the second case, the pleasure evidently falls under that class of natural expression which we have already considered and in which we have found the conditions of beauty realised. Take now the case of the first person. Here the bird's song acts evidently by the power of suggesting a complete environment—of recalling a host of images and impressions. It calls up the spring to us. How far then does it satisfy the conditions of expression, objective and subjective ? Let us first ask, What is in this instance the relationship of form and conveyed content ? Obviously it is not the direct casual connexion which characterised the first type of expressiveness. The lark, it is true, sings under the influence of the same great force which re-clothes the earth in greenness and sunshine, and in so far as we feel that force only in its song, we do not stretch its powers of expression beyond their natural borders ; but what if it evokes in us the joy which we have experienced in the warm sunshine and the freshly-opening flowers of spring ? This joy we feel not in, but *through* its song ; and the two prepositions serve well to distinguish the natural form of expression from that which we are now considering. There is, indeed, an objective and necessary connexion between the song and all those things for which the song stands ; they are all part of the one great natural phenomenon, the coming of spring. But—in so far as the connexion is not so direct and intimate as that of cause and effect—there is here a modification of the simple form of expression which we first considered.

Turning to the subjective aspect of this experience, we have a corresponding falling away from the perfect conditions of æsthetic pleasure. The connexion in nature being more

indirect and remote, the perception or the sense of that connexion will be both less universal and less spontaneous: it will depend upon the individual, and not only on his temperament (for this is true of all æsthetic enjoyment) but on his actual experiences. If all the sensations of all the days on which he has listened with joy to the lark's singing, of the other delights of ear and eye which accompanied that joy, are now unconsciously but inseparably blended in his present rapture, if they all contribute to make up that which the bird's song can mean—yet that meaning, though indisputably far richer and more complex than that which it conveys to the general listener, lacks universality, and his perception therefore has less claim upon the title of beauty, or true æsthetic significance, than the case which we have already considered.

The third case may be rapidly dismissed. Here the objective connexion between the song and the ideas which it excites is so external and extraneous that we evidently cannot speak of the song *expressing* these ideas without a gross misuse of language. For the same reason, such power of expression as it can be said to possess must be strictly limited, dependent as it is on an individual temperament, on individual interests in the hearer which make particular features of the total complex of experience of which the song formed a part, the source of a peculiar pleasure to him. These interests (which may be that of the huntsman or of the ornithologist) is afterwards unconsciously transferred to the song itself.

Hence we see that in the three cases we have been considering, the æsthetic pleasure derived from the lark's singing varies in purity and universality in proportion as the spiritual or emotional content, which is the source of that pleasure, is more or less *directly* expressed; and this again in proportion as the medium and the matter of the song are mutually determined and conditioned, not merely in the consciousness of the hearer, but in the physical world outside. In the cases which we considered last, this objective mutual determination was either not present, or only partly so. Its apparent existence to a certain number of minds is really the result of an unconscious self-deception, which causes indirect suggestion to usurp the form and influence of direct expression.

And this brings us to the part which association plays in the matter. Association, as we saw, may be the instrument of delusive reflexion, as well as a faithful imaging of the world of sense. In one sense, indeed, it is never deceptive.

There can be no mental association of impressions or images without a corresponding connexion of their counterparts in the world of sense. Association does not intentionally feign an impossible or a fantastic world. It seeks to do its work fully, but it is unequal to the task. Hence mental reproduction is always more or less fragmentary and ill-ordered, and therefore sometimes responsible for a strange mental reconstruction of the universe, a re-distribution of its component parts. Now that association is at the root of the phenomenon of beauty is a statement which needs some elucidation. It is evident that association being present in all reproductive activity of the mind, this assertion may be made of any form of that activity. Hence the phrase can only have meaning if by association we understand this process in its abnormal effects. And this is, in truth, the meaning of those who employ the definition. This is evident by a further glance at our three illustrations from the lark's song. In grasping this song immediately as the immediate expression of a joyous life, the mind evidently acts by the normal process of association, inseparably binding together things which in nature are inseparably united. But in order that this song should convey to us all the pleasurable emotions of a bright spring day, associations must be created in our minds which are no exact reproduction of real relations, in so far as they represent these necessarily inseparable things which are only occasionally connected. The lark sings on gloomy days as gaily as on bright, on the bleak moor *as* over the blossoming valley. But the misrepresentation becomes still greater when association causes us to attach to the lark's songs, as emotions directly rising from and embodied in it, the memories of pleasant occupations to which that music was originally only a diverting accompaniment. To explain æsthetic emotion, therefore, as based upon association, is either to mean nothing, or to base it on self-delusion, upon an involuntary distortion of fact.

This will, I believe, become clearer if we consider certain other instances of the expressed capacity of sensuous forms. In our analysis it appeared that while the most universal associations were those founded upon some natural connexion, yet the repeated conjunction of objects bound by no such relation might result in an association equally fixed and indissoluble. A new type of expressiveness is thus presented for our consideration, the most obvious instance of which is in the representative power of words, but which covers all varieties of signs and symbols which are partially, if not wholly, the work of the human mind. The question

arises, Does such symbolism fulfil the conditions of artistic presentation? Now the business of art, as we have defined and accepted it, is to embody in forms of sense the characteristic aspects of life in such wise that the apprehension of their meaning shall take the form of the immediate and comprehensive sympathy with the particular experience—immediate in the sense that no act of reflexion comes in to weaken the sympathy, and comprehensive, because the apprehension in question is no mere conceiving or understanding of it as something apart from us, but an ideal participation in its being. Now if these conditions are fulfilled where the relation between symbol and symbolised, form and content, is artificial and the creation of human wit, cannot such expression, although artificial, be none the less regarded as beautiful, in the widest sense of the word? The very existence of poetry, which uses words as its vehicle, would seem to answer the question in the affirmative, were it not that the growth of language both in the race and individual and in consequence the relation of specific words to specific contents of such objects is essentially a natural phenomenon, in which conscious purpose and intelligence plays, to all intents and purposes, no part. Words indeed have no *raison d'être*, except for the purposes of language. Besides this, it is not the words themselves, but the images and things for which they stand, which are in poetry the true forms and media of expression; there is here, in fact, a double process of symbolisation. But it is in the case of objects, which, having an independent existence of their own, are arbitrarily employed by the mind as signs or symbols of other objects, that the above question must be asked. And in respect of these the conclusion is unavoidable that if such forms could excite æsthetic enjoyment in all its completeness, the fact of their artificiality would have nothing to say; but that they cannot, as a matter of fact, produce such an effect, and this for a reason which is closely bound up with their artificial and arbitrary nature. For such symbols being the work of the intellect, appeal to the intellect alone, and serve but to call up the bare notion of that for which they stand. This is the incurable defect of allegorical art, and the source of its inevitable inferiority to the art which imitates nature. The representation of Death by a skull and cross-bones, or by the mower with his scythe, suggests but a single aspect or attribute of Death, and familiarity with such a symbol serves to make it less rather than more concrete, so that in the end it comes to present little more than the simple idea to the mind. But Death, as portrayed or contemplated in a single

definite instance taken from experience, is evidently a very different matter. Liberty again may be designated by a red cap; but apart from the fact that such symbolisation can only reach those who have been familiarised with it by repeated associations, even in these it cannot be a source of genuine æsthetic enjoyment, such enjoyment as would be derived from the contemplation of one of the many forms in which the aspiration after freedom, or the sense of its attainment, manifests itself in the human heart. And thus it is that the true æsthetic value of such allegories as the Pilgrim's Progress lies not in the skilfulness with which the allegory is handled, but in the power of the writer to interest us in the character and fates of the *dramatis personæ* as human beings.

It is evident then that expression by means of an arbitrary sign or symbol can never wholly fulfil the conditions of artistic presentation or fully earn the title of beauty. Here then appear clearly the limits of the power of association as a cause of æsthetic experience. The æsthetic appreciation of such forms as owe their expressiveness to the operation of this principle, must always fall short if not in directness and spontaneity, yet in fulness and intensity, of our enjoyment of forms whose significance is founded on a natural relation. Conversely, the title of expressive in the full sense of the word must be denied to all forms whose unity with the content they express has its sense and existence not in the constitution of the external world, but in the mind of the observer.

There remains one other type of expression to be discussed—a type the imperfect analysis of which has created a serious misconception with regard to the nature of beauty. It is frequently asserted that our sense of beauty in an object is nothing more than our perception of its fitness for a particular purpose. Now the theory, stated in this crude form, is so obviously false as to need nothing more than a bare confutation. Beauty is not utility; to perceive that an object is useful to this or that end, and to be conscious of its beauty, are evidently wholly distinct ways of regarding it. But our perception of its utility for a particular end, an end which is before our mind, and our consciousness of design, of purposiveness, of rationality in fact, as expressed in the form of the object, are equally distinct from one another; and this latter attitude of mind may justly be regarded as æsthetic, for it is the contemplation of a mental content embodied in a sensuous form. This is not to concede that the expression of general design or purposiveness actually constitutes

beauty ; for beauty is the expression of character (in the widest sense) and character embraces far more than adaptability to an end. Indeed, the more a thing appears as an end in itself, the more significant does its character appear ; while qualities, which viewed teleologically are negative rather than affirmative, are yet capable of æsthetic presentation. This, however, is somewhat beside the point : what here concerns us is the truth, that adaptation to design, as a property of a given object, may be a true source on the one hand of beauty, and on the other of æsthetic enjoyment. In what sense then, it will be asked, can the object fitted by man or nature for a particular purpose, be said to *express* design or purpose ? What is here the relation of form and content ? Without attempting a definition of scientific exactitude, we may be content to emphasise the fact, that the relation is founded on the nature of the object, not upon an arbitrary association of the mind. An object is capable of expressing utility because it is useful, because that is, some power has been at work upon it with the aim of adapting it to some particular end. Now at first sight it seems as if the content in such a case were not the force which lies behind the object, the force which has formed it and of whose activity its form is the outcome and expression. Here the content at first sight seems to be an idea, pure and simple ; and the relation of the form to its content, that of the particular example to its general principle ; a relation, however, not reached by the effort of a comparing intellect, but by an act of immediate apprehension. Yet here too we should probably be more correct in regarding the content, as life expressed upon form, whether that life be, as in the machine, the designing intellect of man, or, as in the mechanisms of Nature, the informing intelligence which they inevitably suggest. It is, then, the direct expression of life, that we admire and sympathise with in works of design, in so far as we contemplate them æsthetically. This distinction will become palpable when we consider the double kind of pleasure which a work of art may inspire in us ; on the one hand, the delight in it as an expression of that which it definitely sets forth to express ; on the other our appreciation of it, apart from its inner significance, as a revelation of skill, of purpose, of human intelligence. For only the latter form of æsthetic pleasure can be afforded by a work of pure utility.

The part played by association in this last type of expressiveness is instructive. To admire the designing mind in its handiwork we must evidently understand that handiwork, and the more intimately familiar we are with it as a piece of

mechanism, as a means to a distinct purpose, the more capable we shall be of a just and discriminating admiration. Yet there is a danger that this very knowledge may defeat its own purpose. For it may cause us to concentrate our attention upon the particular qualities of shape, or texture, or whatsoever it may be, which make this special object pre-eminently suitable for this special purpose; and therefore exclude that attitude of mind, which regards it as the embodiment of a principle, or rather as the sensuous presentment of conscious and designing intellect. Now the natural process of association in the mind of one definitely and clearly instructed by frequent experience as to the use to which a particular instrument was meant to be put, would be, that the sight of the instrument should call up the memory of its function, and engross him in the contemplation of it; which, if its organisation were of a complex nature, would, by involving him in a detailed contemplation of the parts, exclude a comprehensive vision of the whole. But it is just this comprehension and direct vision which is a necessary ground of the true æsthetic attitude. Hence for this attitude to be taken, we require that the associative process must not be consummated, but rather weakened and curtailed; the mind must rest satisfied in the recognition of the general principle, and desist from the pursuit of the particular application.

This brings us to a matter which, though hitherto but incidentally handled, is perhaps the true objective of our inquiry; the association theory of beauty *par excellence*. In examining this theory we find that what its supporters credit to the process of association is really due to a defective operation of that principle. The origin of the sense of beauty is explained by them somewhat after the following fashion. On the partial recurrence of any experience (A B C, let us call it) there is a tendency for the whole, or for other parts of the whole experience, to be recalled at the same time to memory. If A, for instance, recurs in actuality, B or C or B C may recur ideally. But A, B and C each have, or may have, their specific accompanying experience of pleasure or pain (feeling-tone, as it is called), *a*, *b* and *c*. Now it may happen that A, on its recurrence, fails indeed to recall B or C but brings with it, besides its own feeling-tone *a*, the pleasurable or painful feeling *b* or *c*. If *b* was originally much stronger than *a*, it will overpower *a* in the recurrence, and thus come to be regarded as the true adjunct and property of A. But while its association with A is thus regarded as inevitable, it is at the same time inexplicable, or at least incap-

able of explanation as the natural effect of A. Having forgotten our original experience ABC, we cannot understand why A is accompanied by *b*. Hence, being unable to refer *b* to any of the known qualities of A, we end by coining or inventing a new property, which we call beauty, and to this we attribute the feeling *b*.

Thus beauty is referred to a delusion, and association (but, be it observed, *defective* association) is made the instrument of the deception.

Such is, briefly, the association theory of beauty, which was much in vogue in England during the eighteenth century, and still has its supporters. The refutation of it may be either empirical or *a priori*. We may point, as Hutcheson and Coleridge after him have pointed, to the acknowledged beauty of objects which associations have rendered repulsive rather than pleasing; and, on the other hand, to objects, which, pleasing on account of associations, would be denied any claim to beauty by the general taste of mankind. But a more convincing refutation has appeared in the course of the present inquiry. We have agreed that beauty lies in expression, and we have seen that there can be no true artistic expression save where the form derives its meaning from some necessary and objective relationship to the content, that is, where that meaning lies in the nature of the object, constitutes in fact its *raison d'être*, and is not affixed to it by an arbitrary act of the mind. But the explanation of beauty now before us does not fulfil these conditions; not only is there no vital relationship between the form and that which it expresses, but there is here no question of expression, in the sense to which we have restricted the term, at all. For the beauty of an object, according to this theory, consists in its power of renewing in us a pleasure previously experienced apart from the circumstances which gave rise to it. The test, in fact, of the presence of beauty in an object is its power of communicating a particular kind of pleasurable feeling, a power which it derives from nothing in its own nature, but from the coincidence of previous connexion with another object or circumstances possessing that power. The theory, in fact, annihilates beauty as an actual property of objects. But the truth is that the pleasurable feeling which we derive from beauty (if pleasurable it can always be justly called) is wholly due to expressive capacity of the object, and arises in proportion as the object exercises this power; that is, in proportion as we are forced to abandon ourselves to, and to absorb ourselves in, the life which it expresses. But according to the associationist, objects are

beautiful not in so far as they express an intellectual content, but in so far as they recall a pleasurable feeling.

I have now, I think, discussed the chief forms of true and spurious artistic expression, and the degree to which each form is dependent upon association. And the conclusion reached is this. In the first place, considered as a normal activity of the mind, association is indispensable to the apprehension of any sensuous form, as *expressive*; that is, unless certain associations are aroused in the mind of the beholder, no object however beautiful in itself can inspire in him the sentiment of beauty. So much we may allow, without committing ourselves by one step to the position of the associationist. For having agreed that certain processes of association must necessarily be, as it were, set working in the apprehension of beauty, we have still to ask, How it is that while in some minds these processes are put into activity, in others they are not? Association is after all but a portion of the mind's intricate machinery, and to see in it the true source of any aspect of our emotional life, is no more reasonable than to regard the eagle's wings as the cause of its swift flight, or the wires and other apparatus connected with the telegraph as the cause of our early knowledge of events which happen in distant continents.

So much is true of association as an accurate witness to reality; true, that is, of cases where its processes correspond to and subserve the actual connexions of things. But we have seen that this accuracy is not always achieved; that association often gives rise to connexions in the mind which have no real counterpart, and thus lends to objects a significance and an import, and consequently a capacity for expression, which has no basis in nature. In such instances association may more justly be regarded as the *cause* of this capacity and not merely its condition. But an expressiveness which is purely subjective fails, as we perceived, for various reasons to fulfil the conditions of a complete æsthetic experience. Such experience demands in the object the prior existence of certain definite qualities; in the subject, of a definite mental attitude or disposition. And it is not enough that these qualities of the object should be *feigned* to exist in it; their existence must be real and independent. But association merely feigns that existence, and feigns it, moreover, but roughly and imperfectly. Hence it cannot be justly held as a determining ground of æsthetic significance, nor the specific emotion which it attaches to objects as the differentia of æsthetic pleasurable-ness.

The fact that the artist, and more particularly the poet,

relies to a large extent upon the operation of the associative principle in the minds of his audience, is in no sense antagonistic to this conclusion. In his restrained and selective use of imagery, the true poet aims at combining the minimum of distinct sense-presentation with the maximum of imaginative and emotional suggestion. But the associations which he counts upon exciting, are such as he has himself discovered, by frequent or intense experience, to be naturally and inherently allied to those salient features of his experience which he is content to reproduce. Take Keats' lines:—

The same that oft-times hath
Charmed magic casements, opening on the foam
Of perilous seas, in faery lands forlorn.

Here the poet could not have said more, without in some way fettering our imagination; he could not have said less, without failing to stimulate it in the degree intended. How far the reader's imagination actually fills up the details of the picture, how far it is content with the mere sense of stimulation and awakened power, is a nice question; but, however that may be, there can be no doubt that while upon association, or, if we prefer so to put it, upon preformed associations, the poet relies for producing the desired æsthetic effect, these associations are themselves founded upon an objective and necessary connexion of things. Thus association still remains no more than the means and instrument of an activity, whose real business is the concentrated expression of life and nature. Association is, in fact, a useful, indeed an indispensable servant; but a servant who, as we have seen, once admitted to the privileges of master, may substitute chaos and illusion for a true and ordered insight.

V.—CRITICAL NOTICES.

Plato's Doctrine of Ideas. By J. A. STEWART. Oxford: Clarendon Press, 1909. Pp. 206.

IT is gratifying to the student of Plato that Prof. Stewart should have followed up his delightful book on the *Myths of Plato* by a work in which he gives us his interpretation of the Platonic εἶδη as a contribution to the methodology of science. Since I am inevitably bound to devote most of the space at my command to a discussion of points in which I find myself obliged to dissent from the author, I would say at once that there is very much in which I find myself in accord with him, and that I owe him a special debt of gratitude for the kindness which he has shown to some of my own past attempts to elucidate Plato's thought. In particular, I find the crude interpretation which treats the εἶδη literally as ghostly "things," of which the "things" we see and touch are, so to say, bad photographs, refuted by Prof. Stewart in a way which I think it would be hard to improve upon. And I should like particularly to call attention to one remark, which I should hardly hesitate to call the most important sentence in the whole book, "μέθεξις is really predication" (p. 77). This, to my mind, goes very close to the root of the matter, and my only doubt is whether Prof. Stewart can be right in saying that Aristotle "did not see" this when he tried to justify his secession from the Academy by formulating his well-known collection of polemical arguments, old and new, against the εἶδη. I suspect that the truer way to describe his attitude would be to say that he did see it, but also saw that the Platonic formula involves a peculiar theory about the "import" of predication which is not his own. To put it baldly, may we not say that Aristotle regards the connexion of attribute with substantive as ultimate for logic and metaphysics? *A is a B* means '*B* is predicated of *A*,' and that is all there is to be said about it. The doctrine of μέθεξις, on the other hand, seems to imply that that is *not* all there is to be said; if *A* has an adjective *B* predicated of it, this implies a metaphysical theory about the relation of *A* to a certain entity which is not adjectival. Thus, when I say "Socrates is wise," the ground of my assertion is a relation between Socrates and 'wisdom,' and 'wisdom,' though not a "thing" is also not a predicate or adjective, but a quasi-sub-

stantival entity. In other words, Plato is definitely a "realist" in the original and proper sense of the term, and hence his position can never be made quite intelligible by an interpreter who, like so many modern logicians, including Prof. Stewart himself, is a "conceptualist". But more of this directly.

If I should try to characterise Prof. Stewart's general attitude towards Plato's thought quite generally, I think I could best do so by saying (1) that in the main he is at one with Natorp in seeing in Plato an epistemologist of the type of Kant, and in the *εἶδη* an almost exact anticipation of the "Categories of the Understanding," though one of them at least, "the Good," is held always, and others in so far as they are treated mythically, to recall the "Regulative Ideas" of Reason, but that his view is further complicated (2) by a desire to defend Plato against the denunciations of Prof. James and Dr. Schiller by treating the "categories" themselves in the Pragmatist fashion as mere "points of view" which we find it "convenient" to take in dealing with sense-experience (see particularly pp. 38, 100). Further, like most current interpretations, Prof. Stewart's goes (3) on the assumption that the doctrine of *εἶδη* is from first to last the invention and peculiar property of Plato, and that it is thus necessary at least to raise the question of a possible difference between an "earlier" and a "later" Platonic philosophy. In my own opinion, no one of these assumptions is tenable, and the making of any one of them is bound to lead to a forced and unnatural exegesis, while (3) the only one which can be confronted with actual testimony, is directly contradictory of all ancient evidence including that furnished by Plato himself. But before I deal with these fundamental points, I may be allowed to refer to one or two important matters in which Prof. Stewart, as it seems to me, prepares the way for a false interpretation by actual misunderstanding of the Platonic text. The most important of these cases are two, the treatment of the passage about the *δεύτερος πλοῦς* in the *Phædo*, and the explanation of the famous statements of the *Republic* that *the Good* is *ἐν ἐπέκεινα οὐσίας καὶ ἀληθείας*, and that it is not *γνώσις*. First as to the passage of the *Phædo* (99-100). Prof. Stewart, like many other interpreters of Plato, supposes a contrast to be intended between an ideally best kind of cosmology, which consists in direct deduction of the whole details of existence from the notion of the Best or Good, and the method of procedure by *λόγοι* which are *ὑποθέσεις* as actually adopted by Socrates. Thus he writes (pp. 96-97), "It seems to be held that though explanation of Being and Becoming by means of the Good, or ought-to-be, (the final cause,) is the best explanation, yet there is another kind of explanation with which we must be satisfied . . . , explanation by means of the Idea (formal cause) in which the phenomenon to be explained 'participates'. . . . When, however, the proximate law has been so affiliated [*i.e.* to a higher law], and is at last seen to be deducible from *ἰκανόν τι*, the explanation is in-

deed *scientific*, but as Plato insists on contrasting it with that by means of the Good, we must suppose that he regards it as lacking something—it is ‘mechanical,’ not ‘teleological’. In the *Republic* and *Philebus* he seems to see his way, as he does not in the *Phædo*, to making a scientific use of teleology.”

This explanation, which agrees with that of Natorp, seems to me to be due to a dangerous misunderstanding. The contrast which is in Plato’s mind is completely misrepresented, as may be seen by comparing the account in the *Phædo* of the process by which one arrives at the *ικανόν τι* with the description of the ascent of ‘dialectic’ to the Good as an *ἀρχὴ ἀνυπόθετος* in *Republic*, vi. (and note that to be *ικανόν* is a *proprium* of Good also in the *Philebus*). The comparison, I believe, makes it certain that the method of studying *τὰ ὄντα* in *λόγοι* spoken of in the *Phædo* is identical with the “dialectic” of the *Republic*, and the *ικανόν τι* with the Good. The real contrast which Plato intends in the *Phædo* is, as the words of 99 *e*, *βλέπων πρὸς τὰ πράγματα τοῖς ὁμμασι καὶ ἐκάστη τῶν αἰσθήσεων ἐπιχειρῶν ἀπτεσθαι αὐτῶν*, show, between deduction of consequences from *λόγοι* (which ultimately involves deduction of them from the Good), and the method ascribed to the early cosmologists of basing an explanation of things upon analogies (*cf.* 92 *d*) drawn from immediate sense-perception (such *e.g.* as the rival analogies of a body whirled round by a string, and of the formation of an eddy in water, which play so prominent a part in early Greek Physics). The contrast is not between what Socrates accomplished (or what Plato thought feasible when he wrote the *Phædo*), and what Plato thought possible in his later days, but between the methods of Socrates and those of his predecessors. Where Natorp and Prof. Stewart go wrong is in neglecting to consult the dictionary about the meaning of *δεύτερος πλοῦς*. What it means is, not, as their explanations imply, an “inferior,” but simply a more difficult method. As the quotation from Menander actually given in Liddell and Scott to illustrate the phrase shows, the *δεύτερος πλοῦς* is, literally, getting out of port with your oars when the wind is against you, and does not permit the easier method of sailing out. You try to sail with the wind in the first instance because it is easier to do so, not because the intended result is not equally effected by the “second” method of navigation. The procedure of the *Timæus* is just as much a *δεύτερος πλοῦς* as that which we are told by the *Phædo* Socrates fell back on; in fact, the two are identical, except that the *Phædo* does not actually go on to apply the method of *σκέψις ἐν λόγοις* to cosmology, as the *Timæus* does. What both dialogues teach is that rigid deduction from postulates which have finally themselves to be justified by their connexion with the “Good,” or world-purpose, is, hard as it may be, the only philosophical way to the understanding of what is. Let me add that the whole conception of this “dialectical” method is no invention of Plato, but belongs to the historical Socrates, as may be

seen by comparing the account of the use of *ὑποθέσεις* in the *Phædo* with the invaluable statements of Xenophon in *Memorabilia*, iv., 6, 13-15.

A similar grave misinterpretation, I should say, is responsible for the momentous conclusion of page 51, that the "Good" because it is the principle of *οὐσία* and *ἐπιστήμη* is not "an object of scientific knowledge". It would be strange if Plato held this view, since he himself makes acquaintance with the Good the culmination of knowledge, and requires the deduction of all other knowledge from knowledge of It. And the existence of such a dialogue as the *Philebus* or of the lectures "about the Good" would be no less an anomaly. But the fact is, I think, that Prof. Stewart has obtained his result by misinterpretation of language. What Plato says is simply that the Good is not "knowledge" (as was assumed by those who identified it with *φρόνησις*). But it does not follow that what is not knowledge cannot be a known object. In fact the parallelism between the Good and the sun requires that the Good *shall* be such an object. The sun, too, is neither vision nor light, but the cause of both, yet it is also itself one of the things which are seen by its light, and it is implied that even so "in the intelligible realm" the Good makes itself as well as everything else knowable. It is "more than science," since it is the source of the truths I know, no less than of my knowing, it is "more than fact," since it is the source of my power of knowing fact, but this does not prove it unknowable. In a word, here, as in Prof. Stewart's conception of the function of myth in Plato, I think I trace the influence of the specifically Neo-Platonic notion of symbolism as the only means of apprehension of the highest truth. With Plato, if I am not mistaken, symbolism has quite another value. It is the appropriate method of dealing with the world of incalculable change, which cannot be properly known, not because it is "above" but because it is "below" knowledge. *Timæus* (29 b-c) surely disposes once for all of the theory that the Good, which is the reality of all realities, can only be apprehended in symbol. Compare the admirable remarks of Hegel on the point (*Geschichte der Philosophie*, *Werke*, xiv., 188-190). One more matter of "anti-quarian" detail, before I pass to considerations of a more general character. Any discussion of the drift of the *Sophistes* and *Parmenides* requires a decision about the identity of the *εἰδῶν φίλοι*, the half-Eleatic thinkers who denied the reality of the sensible world *in toto*, and whose views in some way are manifestly kept in mind throughout the *Parmenides*. Prof. Stewart decides that they are pupils of the Academy who misunderstood their master's imaginative language about the "reality" of the *εἶδη*. I feel bound still to maintain that they are predecessors or older contemporaries of Plato, and that all the scanty evidence we have points to Euclides of Megara as at least one of the persons in question. Of course, it was possible for Plato to compose a "Socratic"

discourse in which the opinions of his own pupils should be canvassed, and the evidence supplied by Aristotle makes it clear that he has done so in the *Philebus* where the opposing ethical theories about the worth of pleasure can be identified as those of Speusippus and Eudoxus. But the case of the *Philebus* presents a very interesting peculiarity. Very little is said, after the opening of the dialogue, about the εἶδη. It is admitted on both sides that there are such "units" and that they are at once ones and manys. But the rest of the dialogue deals not with them but with certain concrete facts of psychology and moral life. Any careful reading will show e.g. that the true answer to the question where the εἶδη come in the fourfold classification is that they do not come into it at all. It is a way of dealing with τὰ νῦν ὄντα, with γενέσεις εἰς οὐσίαν, and only indirectly throws light upon the organisation of the system of pure concepts, as indeed Prof. Stewart seems to see. This at once suggests the question whether it is likely that the students of the Academy were to any great extent set to discuss the "Ideal Theory" at all. As far as any evidence of the nature of their studies can be derived from contemporary allusions or from their subsequent careers, they were not. The actual work supplied to them seems to have been chiefly the development of the various branches of mathematics and the solution of "problems" in astronomy. (The famous astronomical hypothesis of the concentric "spheres" of which Aristotle, to the incalculable injury of science, made such a mess, appears to have originated as the solution of one such "problem".) The probability is that the pupils were already supposed to know about the εἶδη in a general way from their acquaintance with literature, especially with Plato's own writings. To be sure, Plato is known to have lectured about the "Good," but we know also that this lecture was mainly concerned with the philosophy of mathematics, and the programme of *Republic*, vii., reserves serious contemplation of the Good for the evening of life. Thus the antecedent likelihood would seem to be entirely against the view that Plato spent his time in composing dialogues about εἶδη for the special benefit of his own pupils. Moreover, the nature of the doctrine ascribed to the εἰδὼν φίλοι in the *Sophistes*, as well as the way in which those persons are spoken of, indicates that Plato is dealing with persons of an earlier time. They were persons about whom the young Thætetus might not be expected to know much, though the "Stranger from Elea" is well acquainted with their views διὰ συνήθειαν. (248 b). This points at once to a connexion between the "friends of forms" and Eleatics who were contemporary with Socrates, and could be described as being of the "fellowship of Parmenides and Zeno". Moreover, the doctrine ascribed to them is quite unlike anything we can suppose to have made its appearance in the Academy of the middle of the fourth century. They hold that "real being" belongs only to "certain incorporeal εἶδη," that the

sensible world is mere γένεσις (246 a), that we "share in γένεσις with our body through sensation, but in real being with our soul through reasoning" (248 a). In other words, they deny that sensation has any psychical side to it, and consequently hold that γένεσις is simply "what is not". They only differ from Parmenides in substituting for his solid spherical "One," the incorporeal εἶδη; their "doctrine of Ideas" is one which excludes μέθεξις. It stands to reason then that they represent a point of view much cruder than that of the Socrates of the *Phædo*, and that we must look for them among the persons whom Aristotle distinguishes from Socrates as "those who first said there were εἶδη" (*Metaphysics M.*, 1078 b) and about whose date he is silent. That they are older than Plato follows at once from the fact that in *Metaphysics M.* they are distinguished from their later successors who further held that εἶδη are numbers, that is, from Plato. (The popular explanation of the passage which finds in it a distinction between Plato and his successors is quite impossible, and owes its existence to the baseless assumption that no one had "said there are εἶδη" before Plato.) Now Euclides, of whom we know that he μετεχειρίζετο τὰ Παρμενίδεια, and denied the reality of everything which is opposed to "the Good," and of whom tradition recorded that he came from Gela, in Sicily, exactly fits this description, and it must, I think, be inferred that he is one of the εἰδῶν φίλοι, whoever the rest of them may have been.¹ In fact, it seems to me to be precisely this belief that Aristotle really has in mind when he says that whereas the persons who "first said that there are εἶδη," "separated" the universal from the particular, Socrates did not do so. (That Aristotle had any other source than the dialogues of Plato for his statements about the theories of Socrates will not, I think, be maintained by any one who cares to study his references to the views of Socrates as a whole.) If this is conceded, it follows at once that the "young Socrates" of the *Parmenides* represents neither Speusippus, nor the historical "younger" Socrates, nor any other member of the Academy, but the actual Socrates at that very stage of mental development which is described in the *Phædo* when he tells us how he betook himself to the δεύτερος πλοῦς. It is instructive to observe that in the *Parmenides* the conception of εἶδη is represented as quite familiar to Parmenides and Zeno. They do not need to ask what an εἶδος is; what they do want to find out is whether the "young"

¹ The conditions would be fulfilled by any thinkers who held such a doctrine about the εἶδη as would be natural in persons specially connected with either Eleaticism or the Pythagoreanism out of which Eleaticism was developed. The intimate connexion of Socrates with Simmias, Cebes, Theodorus, and the Pythagoreans of Phlius is enough to account for Plato's acquaintance with a numerous band of such "friends of Forms". The point of real importance is simply that the persons meant are men of an earlier, not a later, time than Plato himself. We are thus delivered from the necessity of constructing an inherently improbable and historically unwarranted theory about the character of the Academy.

Socrates can, by his theory about μέθεξις, successfully bridge over the gulf which the doctrine of εἶδη described in the *Sophistes* sets up between the "Forms" and the sensible world. The problem is not, are there εἶδη, but what kind of relation is μέθεξις. The controversies with which both dialogues deal belong, in fact, to a time which already lay in the past when they were written, and it is only Plato's consummate dramatic art which conceals the fact. (Similarly with the doctrine of Antisthenes about predication which is examined in the *Sophistes*. It had been put forth long before, as we see from the *Euthydemus* and *Cratylus* and from Isocrates, and Antisthenes may well have been dead when the *Sophistes* was written.)

I am a little astonished to find Prof. Stewart treating so gently the extraordinary vagary of Jowett who suggests that the ἰδέα τὰγαθού is an *aperçu* thrown out only in the one passage of the *Republic*. Prof. Stewart quite properly corrects Jowett's statement that "it is nowhere mentioned in his writings except in this passage". But he might have added that the "Good of Plato" was so well known as an example of something superlatively mysterious as to be made into a by-word by the comic poets, and in reply to Jowett's not very ingenuous remark that "it did not retain any hold upon the minds of his disciples in a later generation," it is worth while to observe that, as the writings of the old Academy have all but wholly perished, the assertion can be supported by no evidence, and that the polemic of Aristotle presupposes that the Πλάτωνος ἀγαθόν was a familiar thing to the public of the generation after Plato's death.

I come now to the consideration of the general prejudices which, as I have said, seem to me to have stood in the way of the author in his attempt to reconstruct Plato's thought. First as to the desire to conciliate Pragmatism. Prof. Stewart is, of course, right in protesting against the unintelligent caricature of Plato as a mere "Intellectualist," in any sense in which the term can fairly be used as one of reproach. If Intellectualism means simply the conviction that a philosopher's interpretation of life ought to be justifiable to the intelligence, Plato is in no worse case than Messrs. James and Schiller themselves, since they at least try to give us reasons why we should think their peculiar philosophy better than others. If it means that a philosophy has no other task than to construct scientific categories, and may ignore the demand that our moral and æsthetic and religious experience shall be treated as part of what is to be accounted for, it is simply ridiculous to give the name "Intellectualist" to the one great Greek thinker who is resolutely determined that Philosophy shall be made the basis for the practical regeneration of society. Irreverences of this kind are best treated with a pitying silence. I am exceedingly sorry that Prof. Stewart should have so far condescended to take account of them as to declare that the Platonic εἶδη are merely "points of view" which it is "convenient" to take in dealing with sensible fact, or outlooks

"peculiar to human nature" (pp. 45, 38, etc.). Whatever the εἶδη were, it is quite clear (1) that they are not "points of view" which can be said to be specially connected with "human" nature and "human" needs. A conception of this sort would amount to a reassertion of the ἄνθρωπος μέτρον doctrine, and it is Plato himself who tells us that not ἄνθρωπος but θεός is the true μέτρον (*Laws*, 716 c), and that true knowledge belongs to "the gods and a very few men". (2) And it is also clear that knowledge of the εἶδη is no mere "convenient" point of view but the one and only right "outlook," as Prof. Stewart himself repeatedly says when he is not writing with the fear of the Pragmatists before his eyes. Similarly, I think it is an uncalled-for and unwarranted concession to assert that the *Theætetus* recognises a fundamental distinction between "mathematical and logical categories," which fall under the general head of "Being," and "moral and æsthetic categories," which fall under the head of "Value," on the strength of the passage quoted from *Theætetus*, 186 c, at page 66. οὐσία and ὁφέλεια are not here contrasted but coupled and identified by τε καί, and the whole notion of there being any real distinction between the two sorts of categories is refuted by the simple consideration that with Plato Ethics is always a science of "number, weight, and measure"; the "mathematical" and the "moral and æsthetic" categories are in the end unified by the foundation of both in the notion of τὸ μέτρον or σύμμετρον. Ethics is, as the *Philebus* teaches us, the science of the health of the soul, and the health of the soul, like that of the body, depends in the last resort on the establishment of the proper combination of ἄπειρον and πέρας. It is the task of the legislator to bring about this combination whether, as in *Republic*, ii.-iii., by an education which duly tempers high spirit with intellectual flexibility by a combined training in "music" and "gymnastic," or, as in the *Politicus*, by marriage arrangements which "interweave" the two strains so as to produce the right kind of offspring. "Geometrical equality" is the foundation of right living no less than of the cosmic order.

Next as to the general view, in which Prof. Stewart agrees with Natorp, as to the correspondence of the leading εἶδη as regards their function with the Kantian "categories". With much of what is said it is impossible not to agree. It is perfectly true that one function of the εἶδη is to render "experience" in Kant's sense of the word possible, as is shown by the simple consideration that there are no εἶδη which are not "participated in" or "imitated by" αἰσθητά. And this side of Plato's doctrine is admirably put by the author, e.g., in his analysis of the account given by the *Cratylus* of the εἶδος of a shuttle. Further it is an excellent point to urge in refutation of the singular Jackson-Archer-Hind view of Plato's development that the supposed final restriction of εἶδη to biological "kinds" deprives them of that epistemological function of "making knowledge possible," which is given in the

Timæus itself as the reason for asserting their existence. But I should maintain that the difference between Plato and Kant is at least as marked as the agreement, and that Natorp and Prof. Stewart go wrong by attending only to the agreement. That there is a vital difference may at once be seen if we recollect that with Kant the doctrine of the categories is expressly intended as a solution of the question how "natural science *a priori* is possible," whereas, according to Plato, natural science, in the sense of a knowledge of rigidly universal laws of physical process, is not possible at all. All science is knowledge of εἶδη; cosmology, precisely because natural processes are influenced not merely by the εἶδη but by an incalculable variable factor, the ἀνάγκη or πλανωμένη αἰρία of the *Timæus*, can never be more than a "likely story". Plato's doctrine, in fact, leads straight up to the "descriptive" view of physical science, whereas Kant's leads straight away from it. And so the identification of the εἶδη with "natural laws" seems to me to contain as much error as truth. Its truth lies in the recognition that the εἶδη are not things, but the types of organisation or behaviour to which things (in so far as the actual forms an ordered world) have to conform. But, since they are all based on "the Good," their character is throughout teleological; they are forms of order imposed on things by the unity of purpose which holds the universe together; they are not "laws" of the kind which the Kantian "categories" are devised to justify, uniform and unbroken regularities of sequence, for Plato expressly denies that such rigid uniformity exists. To go rather deeper into the difference, I think Prof. Stewart's habitual description of the εἶδη as *instrumental* concepts seriously misleading. The εἶδη may, no doubt, discharge this function, the only one which Kant's categories possess, but they are for Plato primarily no mere *instruments*; though not "things," they are essentially not *instruments* by which we think, but *objects* of which we think. This is what I meant by saying some paragraphs back that Plato is strictly a realist. The "universal" or "common nature" is for him no mere "human" point of view; it is an object of knowledge, with the reality which belongs to such an object. To say that it is not a "thing" is merely to say that it is not itself a member of the class to which it stands in the relation of being their "common nature," not to deny its genuine objectivity. Hence I cannot find one vestige of support in Plato's language for the view ascribed to him by Prof. Stewart that the εἶδος is put into things by the mind, is a "product of mental activity," an implement by which our mind "makes nature". The standing presupposition is that the εἶδος is not put into things or made by our mind at all; it is something we find and do not create. Even in the *Timæus* the εἶδη are not "God's thoughts," in the sense of being states of God's mind, they are the objects which are before his mind in his construction of the visible world, and God no more "makes" them than the carpenter

makes the εἶδος of shuttle. (Hence I cannot see in the Platonic Demiurge a personification of the ἀγαθόν; the ἀγαθόν is represented by the αὐτοζῶον, and the Demiurge is simply a personification of the νοῦς which, as the *Philebus* tells us, is the "cause of the mixture".)

The fact is that Prof. Stewart is, like Neo-Kantians in general, a *conceptualist*, and hence he reads his conceptualism unconsciously into Plato. He converts the realists' objects of knowledge into something dangerously like mental processes of knowing. His motive is an excellent one; he wishes to protest against the confusion of the object of knowledge as such with an imaginary physical (or hyper-physical) "thing," but in his desire to avoid Charybdis he falls into Scylla. His conceptualism leads him in the end to subjectivism; the εἶδη become "*modes of the activity of ψυχή*" (p. 100, italics mine), a suggestion which is only made once in the whole of Plato (*Parmenides*, 132 b), and then only to be immediately rejected.

As to the remaining point, the assumption that Plato was the originator of the notion of εἶδος, I must dismiss it here very briefly, though I am convinced that it is an historical error which vitiates most current histories of Greek thought. Not only is there no real ancient evidence for the view, but we have against it not merely such testimony as is afforded by the history of the words εἶδος, ἰδέα, μορφή, but the explicit declaration of a writer whom Prof. Stewart seems to recognise (rightly, as I am convinced) as Plato himself. For the Platonic letters explicitly assert that the dialogues are discourses of "Socrates made young again and smartened up". If this is true, we are able to give due weight to the evidence (much of it has already been published by Prof. Burnet), which goes to show that e.g. the whole "Ideal Theory" of the *Phædo* actually belongs to the Pythagorean circles with which Socrates was closely connected, and to dismiss once for all the speculations which have been based upon the real or supposed disagreements between the "earlier doctrine" set forth in the *Phædo*, and the theories of the *Philebus* and *Timæus* and *Laws*. In fact, Platonism as a distinctive doctrine, going beyond the development of Socratic ideas, will have to be looked for almost exclusively in these latest dialogues.

In the present context I do not wish to raise the general question about the amount of Socrates' contribution to the theory of εἶδη, but merely to point out one or two of the more obvious errors into which the assumption that the theory was originated by Plato betrays its adherents. Prof. Stewart tells us that though the thing "dialectic" is to be found in the *Gorgias*, the "term διαλεκτική" has not been appropriated. Now we have the evidence of Xenophon to show that both the thing and the name were quite familiar to the actual Socrates, who, he says, held that men become "best and happiest and most able διαλέγεσθαι" by learning how to discriminate goods and evils κατὰ γένη, and that the practice of "sorting out

things" κατὰ γένη makes men "at once best, most *competent to rule*, and most dialectical" (*Mem.*, iv., 5, 12). So Natorp, quoted with approval by Prof. Stewart, supposes that in the *Gorgias* "Plato made his great discovery of logic as the Power which creates Science and reforms life," though the passage just quoted, together with the significant remarks about the Socratic use of *ἐπιθεωρεῖς* in *Mem.*, iv., 6, shows that the whole conception comes straight from Socrates. This is the real explanation of the highly developed logical terminology of so early a dialogue as the *Euthyphro*; Prof. Stewart should really not have repeated, in a way which does not altogether suggest disapproval, Natorp's fantastic assertion that so thoroughly characteristic a work is spurious. So again Natorp's remark that "Plato cannot have regarded immortality as proved by his arguments" in the *Phædo* involves an historical misconception. Plato had an argument which he regarded as proving immortality, the argument from the identification of the soul with the "self-moved," which he presents not only in the *Phædrus* (this would be inconclusive) but in the *Laws*; the arguments of the *Phædo*, which can be shown to be largely Pythagorean, are not given as his own, but as those which were current in the Socratic-Pythagorean group. Whether Plato thought them conclusive is a question which has no bearing upon his own convictions about immortality; probably, since he replaces them by the argument of the *Phædrus* and *Laws*, he did not. Another improbability which correct historical perspective removes, is the assumption which the author finds necessary for his theory of the part played by Socrates in the *Parmenides*. "As Prof. Natorp remarks," he says, "it is easy to understand how 'young Socrates' should play the part of a pupil of the Platonic school. These young pupils all aped Socrates" (p. 73). Where is the evidence that they did anything of the kind? There is none, unless Natorp may be accounted a witness to facts which occurred over two thousand years ago. Plato's Socrates, indeed, speaks of *his* young friends in the *Apology* as aping him, but this proves nothing about the young men of the Academy. How they spent their time has to be inferred partly from the contemporary allusions of the comic poets, partly from what we know of their mature achievements. And, as I have said, this evidence suggests that they were too busy with the higher mathematics and cosmology to have much time to spend in "aping" the peculiarities of a philosopher who had probably been dead some forty years before the *Parmenides* was composed. As a mere point of fact, I believe any one who sets himself to study the history of *εἶδος* as a philosophic technical term will be led to conclude not only that the meeting between Socrates and the great Eleatics is a fact, but that there is no anachronism in supposing that their conversation actually turned upon the use Socrates was learning to make of the *εἶδος*. The dramatic element is, in fact, as really present throughout the *Parmenides* as it is throughout the *Protagoras* or

Phædo. Even of the second part of the dialogue this holds good. The "antinomies" are, as Plato is careful to remind us, a close imitation of the actual manner of the historical Zeno, and the notions with which they deal, Unity, Multitude, Change, are exactly those which were studied by the historical Eleatics. So again, with some of the remarks which are made at page 79 about the difficulties urged in the dialogue against the "*μέθεξις-παράδειγμα* view" (I am delighted to find that Prof. Stewart rightly sees that it is one and the same view, not two incompatible views as the Cambridge school do vainly talk). The "*impasse*" that "knowledge of the pure objects" is impossible to us is not one discovered in the Platonic Academy; in its essence it is as old as Alcmaëon, and, may we not say, even as Xenophanes? And, *pace* Prof. Stewart, it is precisely by the "*μέθεξις-παράδειγμα* view" that Plato proposes to escape from it. There is no thought in the *Parmenides* of renouncing the view; Parmenides himself most emphatically asserts its indispensability (135 b), and, indeed, on Prof. Stewart's own showing, to deny it would amount to denying the possibility of predication, since, in Plato's view at least, "no *μέθεξις*, no predication". The problem is not to get rid of *μέθεξις* but to clear up our notions as to what kind of relation it is.

To sum up, my general position is this: Prof. Stewart is clearly right in denying that the *εἶδος* is a "thing" in the vulgar sense. The "common nature" which pervades a class is not a member of the class. But, I should also say, according to Plato, this "common nature" is not a "human point of view," a mere "instrument" for dealing with the sensible things which "partake of" it. It is a concept, but a concept is just as objectively real as anything else. Or, if you like, it is a "type of order," but the "types of order" are not subjective, they are as objective as the elements which they order. "The circle" *e.g.* is neither a physical disc (indeed, Plato seems to agree with Leibniz that no physical disc is ever quite circular), nor yet any one of the "mathematical" circles which you could obtain by giving actual numerical values to the coefficients in its equation; it is a "type" of curve, a type of relation, but Plato does not, fortunately, hold the kind of conceptualism which looks on types of relation as the "work of the mind" imported into data which are not "the work of the mind," in the act of knowing. And hence he can hold, without any need for a theory corresponding to Kant's *Æsthetic*, that the types of order are never completely realised in the visible and sensible experience which suggests them to the mind. Indeed, if experience be taken in the sense which Kant puts on the word, we might even say that for Plato genuine knowledge begins where "possible experience" leaves off. It is well to insist on the point that Plato's purpose was not to deny the existence of the sensible, but to affirm it and make it intelligible, but no version of his philosophy can be final which eliminates from it the conviction that the sensible is not the whole of reality, any more

than any version of his social doctrines can be final which omits to show that they are saturated with the belief that "we have here no abiding city, but seek a city to come".

Much of what I have just said may perhaps seem to be forestalled by Prof. Stewart himself in the second part of his book. Here, by the aid of a striking, though perhaps not altogether convincing psychological analysis of the transcendental emotion of the artist and the mystic, he sets himself to show that from the point of view of "Contemplation" the *εἶδος* is everything which it is not from the point of view of the scientific intelligence. It is no longer an "instrumental" mode of the mind's activity, but is envisaged as an individual, as eternal, as coming from the "other world" into which we are momentarily lifted in the state of ecstasy, as "remembered" when we pass back again to the rough-and-tumble of practical life. Now one may gladly accept a great deal of the theory of the ecstatic experience which is expounded by Prof. Stewart with great beauty of phrase and felicity of illustration, and yet doubt how far the whole doctrine is relevant to the interpretation of Plato. Plato must, of course, like all imaginative artists—I had almost said, like all men—have had his moments of "vision," but the real question is how far his presentation of the *εἶδη* has been "contaminated," and made scientifically imperfect, by carrying over the results of imaginative vision into epistemology. And there are one or two considerations which ought to be borne in mind in dealing with this problem. One is that, as careful examination of the vocabulary will show, the famous passages of the *Symposium* and *Phædrus*, which are the chief Platonic texts for the "vision" theory of the Ideas, are permeated with language borrowed from the current mystical rites of Demeter and Orpheus. We must not hastily take for self-revelation on the part of Plato the "seer" what may equally well be psychological reconstruction of the state of mind of the Eleusinian "initiates". Indeed, I would even suggest that the mythical representative of the *εἶδη* is specially likely to be Socratic rather than distinctively Platonic, and that for two reasons. The liability of Socrates to the state of absorption essential to "ecstasy" is one of the most familiar and well attested of his peculiarities. And there is at least one contemporary allusion, in the *Birds* of Aristophanes, which it is hard to understand except on the supposition that Socrates was well known to be interested in just those mysterious "psychic" matters with which such forms of faith and practice as Orphicism were connected. (To say nothing of the *δαιμόνιον σημεῖον* which points in the same direction.) Hence, if there really was a "St. Teresa" behind the Socratic-Platonic movement, I suspect the "saint" was no other than Socrates himself. One may add that it is precisely those latest dialogues which seem to reveal Platonism as finally matured that are most devoid of the "mystical" element. (Contrast on this head, the *Phædo* or *Symposium* with the *Philebus* or *Timæus*.)

Secondly, one important peculiarity of the "contemplative" attitude towards the εἶδη seems to me equally present in the places where they are handled with the greatest "scientific" precision. The "individuality" of the εἶδος is not, as Prof. Stewart seems to think, specially connected with its character as an object for mystical contemplation. It is equally true for the "scientific" use of it that it always is ἐν τι. I would say, in fact, that with Plato, though the "scientific" function of the εἶδος is to render predication possible, the εἶδος is never itself a predicate. It is not "wise," "go'po" "beautiful," but "wisdom," "the Good," "beauty" which are εἶδη. The relation of particular to εἶδος is always a relation between terms which are what Frege calls *Gegenstände*, terms which can never appear as predicates, and this is why the mistake of confounding εἶδη with "things" can be made so easily. And this individuality belongs from the first to concepts which are incapable of being envisaged in symbols which can support æsthetical rapture, to τὸ διπλάσιον, τὸ ἡμιόλιον and their likes no less than to τὸ καλὸν and τὸ ἀγαθόν. In general I think Prof. Stewart's psychology of contemplation, with all its charm, largely irrelevant to the study of Plato on the very ground that it is only applicable to what can be sensibly intuited. With Plato it is clear that whatever emotion could be associated e.g. with αὐτὸ τὸ καλὸν could be equally associated with αἰτὴ ἡ ἀλήθεια, but I doubt if this would be possible if Prof. Stewart's psychology provided the real explanation of Plato's alleged "hypostatization" of concepts. For the matter of that, I doubt if it really explains the raptures of the "saints". It applies admirably to Ezekiel's Cherubim and St. Teresa's Diamond, but not I think to the entirely non-sensuous "One" of Plotinus, nor to the "being than whom none better can be conceived" of St. Anselm. For they, from first to last, are pure concepts like the εἶδη. I doubt, therefore, whether any of Plato's statements about εἶδη really require to be explained as due to the "contamination" of science with "ecstatic contemplation". And I think Prof. Stewart would hardly have put forward the theory, at least as it stands, if he had not begun by crediting Plato with the conceptualist view of the νοητὸν as a mere "instrument". (Even the language about the νοητὸς τόπος, besides being based on Orphic mythology, which Plato certainly did not invent as an expression for mystical experiences of his own, has a close resemblance to the very unmythical concept of "intelligible extension" which we meet in the rationalistic thought of Leibniz and Herbart.) To justify Prof. Stewart's interpretation the εἶδος ought always to be, what Plato is constantly telling us it is not, *imaginable* as well as intelligible. It may be partly prejudice, but I find myself quite unable to believe that by that which is μῶν θεατὸν νῶ Plato means a "sensory-motor image" (p. 181), and the illustration given at page 183 of what Plato meant by ascribing an ὁ ἔστι to identity, equality, or justice by the record of a friend of the author who "visualises" the number-series as a slope down to a

dark ditch with a hill beyond is to my mind merely fantastical. That Plato was a "visualiser" may be true (though I believe actual empirical evidence is rather against the view that seers of visions, "scryers" and the like are as a rule better "visualisers" than other persons), but we have no evidence of the fact, and the details of his mythological geography seem to be taken over bodily from Orphic and Pythagorean sources, and thus prove nothing. Altogether, Prof. Stewart seems to me to err as a psychologist in the assumption that concepts are, psychologically, mental images. I feel confident that much of my own thought is carried on either without imagery of any kind, or with imagery which is found on attending to it to be merely irrelevant. And I am as certain as I can be about anything that "that 'fantastical' thing, the geometer's diagram," is not indispensable to thought about geometrical relations. So the Neo-Platonic experience of union with the "One" must be completely devoid of imagery, as Plotinus is always trying to make us understand; in *ἐνωσις* you apprehend the "One" by being it; the imagery of the radiating light, or the bubbling spring, is, as it seems to me, no part of the experience, but mere consciously and reflectively chosen symbolism, chosen to make the thing a little clearer by analogy to him who has not attained. And further, this *ἐνωσις* is not to be found in Plato; it is not in "ecstasy" that he places *ἐμολώσις θεῶν κατὰ τὸ δύναντον*, but in the life of active service.

For the realist the so-called "universal" is already itself an individual object of thought, though it stands on a different level from any of the "things" which "have" it as their common nature; it does not need to be *made* individual by the make-believe of reverie.

Incidentally, I may say, I am glad to find that in his treatment of the *Phædrus* myth which deals with the character of the "noble" *παιδεραστία* Prof. Stewart recognises that the whole treatment of the subject is dramatic and not autobiographical. (The notion that Plato is here giving us a piece of his own experience is as gratuitous as M. Verlaine's theory that Shakespeare must have been a murderer.) But I do not quite understand what he means by contrasting Plato's too sympathetic treatment of guilty love with Dante's. Dante, to be sure, puts Paolo and Francesca in hell, but his attitude as a man, as distinct from his attitude as a theologian, towards their conduct is surely, to quote Scartazzini, none too becoming in a man who was "nel seno della filosofia nudrito". And what is to be said of his sympathetic treatment of Ser Brunetto, or his elevation of Cunizza to Paradise? "Divine pity," says Prof. Stewart with reference to the case of Brunetto; I find rather absence of severe moral condemnation. It is, I think, for theological, and not for ethical reasons, that Dante can hold out no prospect of recovery of the soul's wings to his preceptor.

Yet another incidental remark seems worth while, in reference to the treatment of the *Symposium*. Like most interpreters, Prof. Stewart finds a contradiction between that dialogue and the *Phædo*

as to the immortality of the individual. But the alleged contradiction does not, I believe, exist. What the *Symposium* says is that *man* is not immortal. This is not denied in the *Phædo*, which professes to prove the immortality not of *man* but of his spiritual part, and expressly calls the time before the soul's birth into the body, the time "before we were *men*".

(As to the meaning of the *Phædo* itself, about which Prof. Stewart seems to feel doubtful, it ought to be clear that its object is to prove the deathlessness of the individual soul. The message of comfort which the dying Socrates leaves with his disciples is not that some souls or others will always exist, but that "our Master is not really taken from us". "I go to the Father," is the parting assurance of Socrates no less than of the Johannine Jesus.)

I may end this notice of a very suggestive book by condensing into a sentence the point of dissatisfaction which I feel in reading the second part of Prof. Stewart's Essay. Transcendental emotion awakened by recollection of a day-dream is an interesting and important topic for the psychologist, and what Prof. Stewart has to tell us about it is most instructive, but I am altogether at a loss to see why only images and not concepts should be charged with such emotion, or how the *εἶδος* employed by "dialectic" can be other than totally disparate with the *εἶδος* which is such an image. And after all, how does the image theory of the *εἶδος* as *παράδειγμα* square with the Platonic view that it is the things of sense which are the images which we behold as it were in a bad dream? Is the transition from *εἶδος* as "instrumental concept" or "point of view" to *εἶδος* as supreme reality really effected, when we talk of the "value" of our dream for Art and Religion, or is the impossibility of crossing the chasm merely concealed? If the dream has "value," is that not just because it is a "dream which is not all a dream"?

A. E. TAYLOR.

Essays Philosophical and Psychological. In Honour of William James, Professor in Harvard University. By his Colleagues at Columbia University. London: Longmans, Green & Co., 12s. net.

FRIENDS and lovers of William James will be glad to welcome this collection of essays, distinguished by their variety and independence, which are here brought together in neat and pleasant dress to do him honour. The volume is, as the prefatory note states, "intended to mark in some degree its authors' sense of Prof. James's memorable services in Philosophy and Psychology, the vitality he has added to those studies and the encouragement that has flowed from him to colleagues without number". The authors are all present or past members of the philosophical and psychological departments of Columbia University. They contribute thirteen essays in philosophy and some six in psychology. Just in

what the difference between the two parts of the book is constituted, is, however, difficult to grasp. It is true that the writers of the separate sections belong to different departments, that some of the psychological essays are larded with tables of figures, speak of experiments and make use of a vocabulary somewhat salted with terms borrowed from anatomy and physiology. But their subject-matter they share with philosophy (*cf.* "Pragmatism in *Æsthetics*," "The Consciousness of Relation," "On the Variability of Individual Judgments," "The Validity of Judgments of Character," "Reactions and Perceptions," "A Pragmatic Substitute for Free-will"); nor are the conclusions of the psychological essays less inconclusive than those in the philosophical ones. The book makes psychology appear as experimental philosophy and philosophy rather barren without that record of observed fact which makes the psychological portions seem, on the whole, somewhat weaker.

The substance and manner of both parts, however, are sufficiently weighty and distinguished. The independence of each other which the writers manifest is such that a satisfactorily continuous summary of the opinions offered is extremely difficult to formulate. In this matter the book is adequate to its intention: for to very few men of our day has it been given, as to William James, to point the way and turn the light in so many diverse directions. If the book reveals no unanimity of opinion it at least exemplifies the adequacy of James's pluralistic insight, and the power of his splendid sympathy; a sympathy and an insight which have rendered the opponent always more than his just due, and have made it possible that William James should lead even over routes unpleasant to his feet and uncongenial to his temper.

That the book shall reflect and express the trend of recent discussion is, of course, natural. The very titles of the psychological essays look toward it. Of the philosophical essays, those whose content is mainly historical glance at it; the others continue it directly. So Dr. Wendell Bush adds an argument against idealism by discussing the scholastico-Cartesian notion of the soul as a factor in the genesis of idealism; Dr. Harold Brown indicates the pragmatic character of method in modern mathematics and logistics and what philosophy might learn therefrom; while the other essays deal with matters of moral or practical interest,—Prof. A. O. Lovejoy contributing a paper on Kant's intellectual ancestry among British Platonists; Prof. Felix Adler, "A Critique of Kant's Ethics," reprinted "for the first time"; Prof. Lord, the thesis, "that the fundamental error in the study of the problem of morals is abuse of the abstractness of the method necessarily employed," and Prof. Tawney an Outline of a Classification of Values. But the majority of the essays and the more important ones are consistently "epistemological". In these the issues between idealisms, realisms and pragmatisms are redrawn and their differences restated. It is difficult to say which has the preponderating vote

in this book. Dr. Montague argues brilliantly for the thesis that consciousness is a form of energy and by implication for materialism. Consciousness, he believes, is like potential energy, in that it is a stress or force having the qualities of invisibility and privacy, unity or indivisibility, a teleological nature, a capacity for redirection. "What I, from within, would call my sensations are neither more nor less than what you, from without, would describe as the forms of potential energy to which the kinetic energies of neural stimuli would necessarily give rise in passing through my brain." Prof. Strong, propounding a theory of the mechanism of cognition, which theory he calls "substitutionalism," distinguishes "subject," "content" and "object," and defines "content" as a substitution for 'object,' the independent reality of which he asserts. Mr. Pitkin, discussing the theory of knowledge under the heading of "World Pictures," decides that "reals get into consciousness, and the reals getting in are world pictures representing part of the nature of Reality," but that reality is not constituted by being known. On the contrary, objects, according to Mr. Pitkin, "have made themselves known," although 'predispositions,' 'purposes,' and 'associations' interpret the instreaming characters, making them mean aspects of particular 'reals'. Prof. Fullerton, in "The New Realism," argues for "a realism which accepts an external, physical world distinct from any one's ideas, the realism which is in sympathy with the thought of the mass of mankind, the realism which has always been tacitly accepted . . . by science ever since there was such a thing as science" (p. 4). His plea is based on the following grounds:—

(1) That "he who declares all phenomena to be mental repudiates the actual knowledge of the world which the learned and the unlearned seem to have" (p. 11).

(2) That there is a physical world order which is "our ultimate standard of reference," "an order of experience, but not to be confounded with what is subjective" (p. 18).

(3) That "sensations referable to no body cannot be believed as real" (p. 18).

(4) That idealism is logically solipsistic (p. 19 *seq.*).

(5) That the motives which cause idealism, namely, "getting sensations by evoking the aid of the body, then denying that there is a body," . . . using the word "sensation to mark a distinction, then repudiating the foundation on which the distinction must be based,"—these motives are not self-consistent.

Prof. Fullerton, therefore, concludes first, for an external world "revealed in *experience*" (p. 35); secondly, for a world of which the experiences of two different minds are not identical and "even may be very widely different from them" (p. 36); a world the knowledge of which "grows and changes" (p. 38); a world in which there is a distinction between "the existence of things and our perception of them".

Prof. Fullerton's treatment of the relation between mind and object is orthodoxly "epistemological". Its result is a rather sophisticated realism which arises from considering the relations of process to content or object to thought. Prof. Woodbridge, however, in the article on "Perception and Epistemology," argues for a radical empiricism or 'naïve realism' by decrying the function and value of epistemology. According to Prof. Woodbridge "the actual service (epistemological) scrutiny performs . . . is not logical but moral and spiritual. It does not modify knowledge, it modifies character. It does not give us new and increased information about our world whereby that world may be more effectively controlled. It gives us rather considerations the contemplation of which is more or less satisfying to the spirit" (p. 156 *seq.*). This conclusion is reached through the observation that (1) objects "considered whether as objects or as perceptions are handled in an identical manner and yield identical results" (p. 143 *seq.*); (2) that "bodies of knowledge are not mere possibilities which we may some day realise, but they are actual bodies of knowledge already existing in various stages of progress" (p. 147); the important thing about them is their "experimental character and the fact that they are accepted by the majority of people at their face value, as measurably accomplishing the thing they set out to do" (p. 147); (3) that the perceived world and the process of perception are, even on a "representative" theory of knowledge, homogeneous and continuous, and the relations between them are empirically discoverable and verifiable (p. 163), are "rather . . . a problem of reorganisation and rearrangement, of new relations in one continuous world, not the problem of the reduplication of a world for ever excluded from the place where it is known" (p. 163); (4) that a direct examination of differences in perception itself—*e.g.*, colour-blindness—answers questions not about the existence or identity of the object perceived, but about the mechanism of perception: "what we seek to discover is not whether the colour-blind see reality as it is, but why they make the colour-discriminations they do" (p. 164 *seq.*). From these observations the general conclusion is drawn, in the words of Jevons: "we cannot suppose, and there is no reason to suppose, that by the constitution of the mind we are obliged to think of things differently from what they are" (p. 166).

On the other hand, Prof. Miller, in a subtle but rather obscurely-stated paper, "Naïve Realism: What is it?" concludes, as the outcome of an epistemological examination of perception and the process of perception, for an idealism like J. S. Mill's. The task of naïve realism, according to Dr. Miller, is to reduce the multi-dimensional physical world to the character of the monodimensional stream of consciousness; to identify the static and structural with the functional and dramatic. This achievement, contends Dr. Miller, is logically impossible. "A continuous polished brown surface (of a desk) is *not* a fibrous or granulated surface. A mar-

shalling of what we scientifically mean by molecules is not what we familiarly mean by desk" (p. 257). For Dr. Miller consciousness is the coincidence of appearance and reality (p. 255); it has no turns and no corners while the physical world has. Therefore naïve realism is inadequate. It only begins to explain reality, it does not account for the *unperceived* aspects of objects. And since "perception is the possession of certain aspects *plus* the preparedness for others" (p. 261), "objectivity" must be taken to consist in "the potentiality of further spatial aspects". But as these two phases are logically incompatible, it follows that "the nature of objectivity excludes the notion that they coexist as 'natural realism' turned into metaphysics would require".

Prof. Dewey, in the mediating fashion James says is the peculiar manner of pragmatism, reveals affinities with all the foregoing authors, but coincides in his opinions with none. With Dr. Miller he agrees that perception is at one and the same time a possession and a preparation; with Prof. Strong, that there are independent objects other than the content of knowledge; with Prof. Woodbridge, that epistemology, which Dewey denominates "intellectual lock-jaw," reveals nothing of the nature of knowledge and does not define its content; with Prof. Montague, that consciousness has an energetic nature; with Prof. Fullerton, that knowledge grows in the world and that there is a distinction "between the existence of things and the perception of them". On the other hand, he differs from them regarding the influence of knowledge on reality, its definite relation to its object, and its function in nature. His essay, "Does Reality Possess Practical Character," insists on the one hand that the object makes a difference to knowledge; on the other, that knowledge makes a difference to its object. Awareness is not a miraculous ineffectual operation of living beings; it is a conspiracy of events in a continuously altering universe. That change, alteration, is the prime character of reality Prof. Dewey repeatedly insists. His essay begins and ends with the distinction, drawn sharply, between dynamic and static visions of the universe, between conceiving it *sub specie æternitatis* or *sub specie generationis*. His entire treatment of the 'problem' of knowledge is based, in this essay, upon the principle that reality is in continuous flux, that it is a turmoil of events, making differences in, for, by and to each other. Of these events, he asserts, knowledge is one; to label this vision of its nature and function "merely personal," "subjective," is to manifest merely subjection to an "ancestral prejudice" in favour of a conception of reality as static. Of the other objections urged against this functional nature of knowing, one is the misconception,—that because it is held that knowledge makes a difference to reality, it is therefore held that knowledge makes "any old difference"; whereas the theory requires that knowledge shall make a particular difference, namely the *right* difference. From this point of view, the problem of the knowledge of past time dis-

appears: "what we know as past may be something which has *irretrievably* undergone just the difference which knowledge makes" (p. 58). Another set of objections commit the fallacy of assuming "that to hold that knowledge makes a difference in existences is equivalent to holding that it makes a difference in the object *to be* known, thus defeating its own purpose; witless that the reality which is the appropriate object of knowledge in a given case may be precisely a reality in which knowing has succeeded in making the needed difference".

Having cleared away the underbrush of objection and misunderstanding, Prof. Dewey proceeds to expound the harmony of pragmatism with common-sense and with biology, and finally, in a cursory examination of awareness itself, the incidence of his pragmatic theory with the facts of awareness.

Common-sense, Prof. Dewey shows, regards intelligence as supremely practical—it is what "the Yankee calls gumption—acknowledgment of things in their belongings and uses" (p. 59). The one "objective test of the presence or absence of intelligence is influence upon behavior. No capacity to make adjustments means no intelligence; conduct evincing management of complex and novel conditions means a high degree of reason" (p. 61).

Again it is an accepted tenet in common-sense that "all knowledge issues in some action which changes things to some extent; . . . that knowing *after the event* makes a difference. . . . But there is a further question of fact: just how is the 'consequent' action related to the 'precedent' knowledge?" When is "after the event"? "What degree of continuity exists?" (p. 61 *seq.*). If finished knowledge issues into action by the merest chance, if the subsequent action just happens, its adequacy to the situation in which it occurs is inexplicable. Moralists and experimentalists together with the run of mankind proceed in a manner which forces us to hold "that the realities which we *knew*, which we are sure of, are precisely those realities that have taken shape in and through the procedure of knowing".

Finally, if there be a great gulf between knowing and doing, how can moral and scientific knowledge both hold of one and the same world? Dr. Dewey's answer, that scientific knowing also is a *doing*, that "scientific judgments are to be assimilated to moral," is, he asserts, "closer to common-sense than the theory that validity is to be denied of moral judgments because they do not square with a preconceived theory of the nature of the world to which scientific judgments must refer. And all moral judgments are about changes to be made" (p. 64).

Biologically, "the brain, the last physical organ of thought, is a part of the same practical machinery for bringing about adaptation of the environment to the life-requirements of the organism, to which belong legs and hand and eye" (p. 64). The brain's deliberating function does not "remove it from the category of organic devices

of behaviour" (p. 65); its business is still and irrevocably practical. Now "the behaviour of the organism affects the content of awareness" (p. 65), "all 'secondary' qualities involve inextricably the interaction of organism and environment" (p. 66). But while idealism cannot be hence deduced, the interpretation of reality as practical follows easily and naturally . . . "the fact that the changes of the organism enter pervasively into the subject-matter of awareness is no restriction or perversion of knowledge, but part of the fulfilment of its end" (p. 67). In this case the question is only are the *proper* reactions made? and what is important is the *way* in which "organic behaviour influences and modifies" its subject-matter. The manner of the influence must not, however, make a difference, *qua* knowledge, in its own object, for knowing fails thereby; "but the proper object of knowledge is none the less a prior existence changed in a certain way" (p. 70). The 'way' is itself determined with reference to the well-being of the organism. Biologically, the "appropriate subject-matter of awareness is not 'reality at large,' but that relationship of organism and environment in which functioning is most amply and effectively attained: or by which, in case of obstruction and consequent needed experimentation, its later eventual free course is most facilitated" (p. 70 *seq.*). Knowledge, then, studied in the light of biology, is functional.

No less is its functional character revealed when considered in itself. Awareness is "an event with certain specifiable conditions" (p. 72). It means "*attention*, and attention means a crisis of some sort in an existent situation, . . . something the matter, something out of gear, or in some way menaced, insecure, problematical and strained" (p. 73). But this crisis is "nothing merely emotional" or subjective. It is "in the facts of the situation as transitive facts; the emotional or subjective disturbance is just a part of the larger disturbance, . . . as biologic as it is personal and as cosmic as it is biologic". It is the "total order of things expressed in one way". Awareness, then, "means things entering, *via* the particular thing known as organism, into a peculiar condition of differential—or additive change" (p. 74). But this change, we are again warned, is not a change in the 'proper' object of knowing: "For knowing to make a difference in its own final term is gross self-stultification; it is none the less so when the aim of knowing is precisely to guide things straight up to this term" (p. 77 *seq.*). And the guiding is a genuine change in the prior existence which change implies; in "existences which have characters and behaviors of their own which must be accepted, consulted, humored, manipulated or made light of, in all kinds of differing ways in the different contexts of different problems" (p. 78).

So is stated and defended, on the grounds of common-sense, biology and psychology, an extremely subtle definition of the nature of knowing which Dr. Dewey elects to denote as 'pragmatism'. It is opposed to idealism in that it insists that objects are not

constituted *merely* by being known, that they have a nature and an existence independent of all knowledge of them, and that one of such objects is knowledge itself. It is opposed to current realism in that it insists that knowledge, while it does not create its objects, makes a causal difference in and to them, just as, conversely, they do to it. At first blush this pragmatism seems not unlike Kantianism; but it differs from that because for it knowing is alteration, change essentially, within and without, while for Kant the inner character of knowledge, the forms of the understanding, space, time and the categories, remain rigid and unalterable during the process of knowing. Another point of difference is that this pragmatism claims to contain nothing whatever transcendental or noumenal, and yet another is that it abolishes utterly the essential distinction made by Kant between theoretical and practical reason. With Kant, it asserts the priority of practice, but asserts also that there is nothing else. It must be argued against those who claim that this philosophy is to be assimilated to some historical view,—idealism or realism, or the Kantian half-way house,—that a candid examination of the facts does not show it so assimilable. It is really a *new* philosophy.

But whether this philosophy is new or old, it is not at all clear that Prof. Dewey has succeeded in defending it against objections. It is doubtful whether the reply to the charge of subjectivism is adequate. The reply indicates that knowledge, though not *alone* constitutive of its object, is still constitutive. But to what degree is it constitutive and what does the object itself contribute to its identity? How is knowledge to be distinguished from its object? These questions would seem to be unanswerable, for in a continually changing medium, in which knowledge is a potent factor of change, the prior existences which knowledge implies can never be known; and though knowledge makes no difference to the object *to be known*, to its own final term, there can, in a continuously changing world, be no final term. The analogy which Prof. Dewey draws (p. 66) between the fact that knowledge involves a relation between organism and environment and the fact that water involves a relation between hydrogen and oxygen is an overt *petitio*, for hydrogen and oxygen as relating to water are distinctly *prior* existences independent of water, and final terms alike with water. They are knowable in themselves without any aqueous modification whatever. But the conditions of knowledge do not bear the same relation to knowledge; they are prior but not independent; final they certainly are not. Both the prior existences and the final terms of knowledge are as transcendent as Kant's things-in-themselves ever were. Consistency therefore would demand the exclusion of 'prior events' and 'final terms' except as mere limitative concepts, like Dr. Schiller's *ἰλγ*. Yet it may be suggested that Prof. Dewey may well laugh at the charge of inconsistency. A description of a world of change, conflict, turmoil and

reconstruction, the very essence of whose being is inconsistency, he may reply, must contain this very inconsistency. And to this reply there is no rejoinder.

At the same time it is clear that the defence of such a view, the discussion about it, would be impossible without certain fixed standards of reference, *known* but unchanged by manipulation in knowledge. The term *knowledge* is itself such a standard; so are *prior*, *object*, *end*. Whatever their origin, whether created wholly or in part by the act of knowledge or only apprehended thereby, once they appear in discourse they have a character unshaken by use in it, an inexorable immutability without which there could be no discourse whatever. Their relations may change with their utilities, but they themselves remain unchanged, whatever their use or relations. And in the validity of this thesis lies the crux of the whole issue. How are terms and relations connected? Are relations internal or external? Prof. Dewey implies by his treatment of knowledge that relations are internal, but it is respectfully suggested that a less inconsistent and equally pragmatic pragmatism is possible under the conception that relations are *external*.

HORACE M. KALLEN.

The Problem of Logic. By W. R. BOYCE GIBSON, M.A. (Oxon).
With the co-operation of AUGUSTA KLEIN. Pp. xii, 500.
London: Adam and Charles Black, 1908.

WE congratulate Mr. Boyce Gibson on the production of a sound, clear, and judicious work, which cannot fail to be of great service to students. The days are past when—so far as text-books written in English were concerned—the student of Logic was obliged to pass directly from such a book as Jevons's *Elementary Lessons* to the larger works of Bradley and Bosanquet. The treatise before us will take a high place among those which are calculated to make the transition from the elementary to the philosophical view of the subject natural and easy.

The book is, as the author himself tells us in the Preface, "in a sense the work of three". Not only has it grown up and taken shape "under the chastening influences of College teaching," but the original drafts were thoroughly revised in conjunction with the collaborator whose name appears on the title-page, and from an early stage in the work the author has enjoyed the sympathy, assistance and criticism of Prof. G. F. Stout: "on such fundamental heads as the Laws of Thought, the interrelation of Categorical, Disjunctive and Hypothetical Judgments, and the essential meaning of the Disjunctive and Hypothetical Judgments, the substance of Prof. Stout's contentions was adopted" (p. vii). The present volume is the first of two, of which the second will deal with the Logical Problem in its more philosophical aspect. The general

tendency which is likely to be realised in the complete work is suggested by the following statement: "The Idealism in which the author's own conviction culminates seems to him to call imperatively for a frank and full co-operation between the idealism of the Hegelian School on the one hand, and the Psychologism of the Pragmatic and Genetic movements on the other. In attempting this reconciliation, so far as it is relevant to the requirements of a logical treatise, the author ventures to hope that he may be found working in the service of that liberating movement in Philosophy which, in his own mind, is centrally associated with the work and personality of Prof. Eucken" (p. ix).

The author conceives the problem of Logic to be the nature and conditions of what is called the search for Truth, *i.e.* the struggle to realise the complete unity of Thought. It is the nature of Thought to aim at such unity, which however is not a *datum* but a problem. The process is carried on subject to a control by relevant fact. Reality must be conceived as having a nature sufficiently stable to control our tentative thought about it. In addition to the reference to Reality, so understood, Thought implies a reference to Purpose: "the purpose of the inquirer, be it that of the physicist, biologist, artist, or mystic, determines the range of fact within which the student recognises an objective control; . . . the investigator is thus self-controlled by his own purpose and outwardly controlled by the facts so far as they are relevant to that purpose". This conception of *relevance to purpose*—the application of which is the central feature of the present work—seems to me to be thoroughly sound, and prepares the way for a vital and concrete treatment of the traditional topics of logical doctrine. The present volume, as we have noted, deals with "pre-philosophical" Logic, so that a limited conception of Truth (which is of course equivalent to a limited conception of *experience*) is sufficient: *i.e.* "(1) The world as common-sense understands it (or some conventionally restricted fragment of it); (2) Nature, understood as the subject-matter of science" (p. 4). The parenthetical qualification under the first head is necessary because common-sense never disregards the reference to *personal* experience as such, and to Self-knowledge: "Only when we have eliminated as irrelevant the relation of truth to personal experience can we fairly describe Science as organised Common Sense" (p. 5). The further and philosophical development of Logic breaks down the externality between fact and idea, and involves a conception of "fact" larger than is possible to science or appropriate to its restricted point of view. It refers ultimately to *experience* in the complete meaning of the term,—experience as understood, for example, in Hegel's *Phenomenologie des Geistes*, in contrast with experience as understood under "positivist" limitations.

The conception of Relevance to Purpose enables us to distinguish in the pre-philosophical Logic two connected stages. The first is "formal," in the sense of "conventional," implying a reference

"not to a permanent order like Nature as conceived by Science, but only to such conventionally restricted aspects of it as answer to the requirements of some particular purpose". This "formal" part of the subject embraces the following subjects: the Logical Use of Words; Definition, Division, and Classification; Connotation and Denotation; Concrete and Abstract Terms; the Laws of Thought; Propositions and Judgments, and their Import and Analysis—all of which topics are treated as fully and critically as possible, subject to the further development of doctrine in the sequel; also the ordinary topics of "Formal Logic," *i.e.* Opposition, Eduction, and Syllogism, followed by a chapter on Fallacies, and one on "Truth-inference, formal and real," leading to the "second, real, or scientific stage," where the casual, disconnected grasp on reality, which the conventional or formal restrictions of the first stage involve, is abandoned: "Thought ceases to play with Reality in the interests of discussion or other requirements of practical intercourse; armed with the idea of natural law, it now disposes itself to face the full force of that great realm of fact which has no limit but that of the applicability of the idea itself" (p. 5). There can be no doubt as to the importance of the distinction marked by the terms "formal" and "real"; but there is much doubt as to the satisfactoriness of the terms themselves.

What is the position, in this programme, of "Formal Logic" as currently understood? The author distinguishes a "formal" treatment of the subject (in the sense noted above) from a "Formal" treatment, and uses a capital letter for the second adjective. "We find," he says (p. 7), "that at a certain stage in the development of our subject it becomes necessary to abstract entirely from the reference of thought to reality as we have defined it, and to concentrate our whole attention on the logical conditions of valid thinking" ("validity" being defined by reference to the Laws of Formal Identity and Non-contradiction, as on p. 187). Why is it "necessary"—except for the reason that a group of traditional doctrines, which through a series of historical accidents have come down to us under the name of Logic, and are miscalled "Aristotelian," have been exaggerated into a system by many influential writers?¹ Mr. Boyce Gibson makes claims for "Formal Logic" which it would be difficult to substantiate. He raises the question whether Formal Logic, in abstracting from all reference to Truth and Reality, leaves nothing for itself, as Logic, but "some abstract department of non-being". This I should say is exactly what in strict system must happen. When Logic is understood as the Logic of Formal Consistency merely, the whole doctrine reduces itself to the statements A is A , A is not non- A ; even "propositions" become extra-

¹ Even a glance at Aristotle's methods of arriving at the valid moods of the three figures (*An. Prior*, I. iv., v., vi.) will show that the supposed science of Formal Logic is utterly alien to his whole view of the subject.

logical.¹ Of course the principle never is thoroughly or consistently carried out. It is true that, as Hegel said, "the Understanding has its rights," and can be treated in abstraction from the life of Reason, as in fact Mr. Boyce Gibson has treated it. But a purely Formal Logic can give no adequate account even of the Understanding. The author says that Formal Logic gives the student a preliminary example of scientific method: "the Rules of the Syllogism, for instance, form a 'science' in miniature" (p. 305).² In a sense, this is true. But on the whole it is difficult to gainsay Adamson's verdict: "The ordinary school or Formal logic can lay no claim to scientific completeness; its principles are imperfect, dubious, and most variously conceived, it possesses no method by which development from these principles is possible, it has no criterion by which to test the adequacy of its abstract forms as representatives of the laws of concrete thinking".

I do not for a moment deny that Formal Logic can be profitably treated and studied. I believe it is best treated by connecting the traditional doctrines with their Aristotelian fountain-head,—not only because of the predominant interest in the reference of logical principles to reality, which characterises Aristotle's method, but in order to make various doctrines and phrases intelligible, which in the ordinary text-book are simply "shot from a pistol," as it were. And as to the value of the study, both as mental discipline and as introduction to some important philosophical problems, there is no dispute.

The main question which I feel inclined to raise regarding Mr. Boyce Gibson's treatment is this: of the two aspects of Thought which he indicates, namely reference to purpose and reference to "objective control," how far does he do justice to the latter? He notes its importance frequently; but while the conception of Relevance of Thought to purpose is constantly and fruitfully applied, the Realistic implications—as emphasised for example by Mr. Bradley³—on the whole are kept in the background. Thus, what Mr. Gibson says about *Essence* (pp. 27, 28) naturally leads to such a conclusion as the following, which however is not drawn by the author. "To say that a thing has a nature or essence at all, simply means that it is capable of definite modes of behaviour in response to what is done to it. Thus, let us consider some substance which is being used by man for his own purposes. However plastic it is to his designs, whatever transformations he makes it undergo, there remains something which he cannot alter, and which seems indeed

¹ Cf. Adamson, article "Logic," § 33; *Enc. Brit.*, vol. xiv., p. 800.

² On the other hand, in a brief but excellent account of Abstraction he shows that the purely Formal Logic works with a conception of Identity which is altogether untrue to the actual facts of thinking (p. 21). The attempt to use Identity without difference is well criticised on pp. 96, 97.

³ Cf. especially his exposition of the Hypothetical Judgment as referring to a Law in the Real, governing the particulars.

to dictate the limits within which his transforming power over the substance shall extend. This is the truth which underlies the ancient doctrine of fixity of species. There is a 'nature' of the thing, not separable from the changeable qualities . . . but *revealed* in the changeable qualities as a law controlling their changes in action. Hence to understand things we must make an extensive study of their behaviour, and if possible *make* them act,—experiment with them."¹

On the other hand, the importance of the conception of Relevance to Purpose is well shown in the treatment of Definition, Division, and Classification; *e.g.* definitions are criticised by first asking what is the purpose of the definition; and "relevance to purpose" alone gives meaning to *exhaustive* division (p. 46) and to dichotomy (pp. 50, 51). The distinction of "formal" and "real" in reference to purpose, though as I think unhappily *named*, is most helpful. The author has an interesting discussion of the definability of *summa genera*, the divisibility of *infimæ species*, and the definability of proper names. In connexion with the first-named point, he examines Mr. McTaggart's argument regarding the affirmation of "Pure Being".² In this connexion I am not sure that he does not forget the principle underlying his own doctrine of abstraction: "'Colour' [which by analogy we may name 'Pure Colour'] does not mean that which is neither violet, nor red, nor blue, nor any other colour; it means 'colour of some kind,' and when its meaning is pressed a little further, it is seen to signify violet, or red, or blue, or some other colour" (p. 21). Hence I do not see how Mr. Gibson can object,—when Mr. McTaggart affirms Pure Being, as the first step in the Dialectic, in the form "Something is,"—that he is affirming "Being of some kind" and not "Pure Being" (p. 76).³

In the discussion of the Laws of Contradiction and Excluded Middle, the distinction between Formal and Material Logic appears as a distinction between the aspect of statement-import and the aspect of truth-import in a proposition. The Law of Contradiction relates to the former only; it refers essentially to the procedure of the *thinker*, and should be expressed in the form that *we cannot* entertain or think of contradictory propositions "together". The author holds that when the Law is put in the form "if SP is *true*, the contradictory of SP is *false*," it then becomes a postulate of the *intelligibility of reality* as such. In estimating the value of this distinction, we must ask what is meant by the word

¹ Mellone, *Introductory Text-Book of Logic*, 3rd ed., p. 156.

² McTaggart, *Studies in the Hegelian Dialectic*, p. 21 (§ 18).

³ We may note in passing that on p. 73 and elsewhere the author gives symbolic statements of his results. I am reminded of Prof. Marshall's statement that the student of Economics should not spend time studying translations of economic laws into mathematical formulæ, unless they have been made by himself. Hence in the well-known *Principles of Economics* all such "translations" are relegated to an Appendix.

"together"? In the well-known passage in *Metaphysics*, IV. iii., Aristotle explains it as signifying "at the same time, in the same object, in the same respect, and with any other qualifications which may be found necessary". Now Prof. Stout's criticism, quoted by Mr. Gibson (pp. 100, 101), shows that the reference to time is not required. Contradictory propositions cannot be true "at different times"; for what is true does not become false by mere lapse of time. Setting aside the time-reference, we have the interpretation of "together," in the statement of the Law of Contradiction, as meaning at least "in the same subject, and in the same respect or reference". This evidently implies *both* the aspects which Mr. Gibson indicated as belonging to the nature of Thought: (a) relevance to a controlling reality, and (b) relevance to the purpose of a thinker; accordingly we may say (a) reality cannot possess contradictory predicates in the same point without ceasing to be intelligible, and (b) the same thought-interest cannot entertain contradictory propositions as true of its object, without ceasing to be a thought-interest. What the author does is strictly to limit the meaning of the Law of Contradiction to (b),—why, I do not know, unless it is to give an appearance of foundation for "Formal Logic". As regards Excluded Middle, the author says that "the attempt to interpolate a reference to the *thinker* would destroy the whole self-evidence of the principle"; we are not obliged to *think* as true either SP or its contradictory, since one of them may be a mere unverified hypothesis. This is true; but it does not alter the fact that if a predicate has any relevance to a thought-interest, then the further we pursue the investigation the nearer we come to a point where we *must* either affirm or deny that predicate of the object: e.g. the supposition that Mars is inhabited.

The foregoing has a bearing on the question of Immediate Inference, which is defined as "the inference from the acceptance or rejection of a proposition to the acceptance or rejection of a further proposition on the sole basis of the laws of Identity and Non-contradiction". From this it follows that Obversion is Mediate Inference. The result is reached by denying the self-evidence of the proposition "either S is a P or else it is a non-P" (because P and non-P together exhaust only a limited universe) and by making the obverse of "all S is P" the conclusion of a Disjunctive inference. I believe that the number and extent of the difficulties which can be raised about the traditional forms of Immediate Inference depend entirely on the way in which you choose to define the process at the outset.¹ It must be admitted that Mr. Boyce Gibson's difficulties are correctly deduced from his definition, and hence his exhaustive discussion of them is valuable.

In the chapters on the Forms of Judgments (pp. 111 ff.) the reference to "objective control," to which we have referred, appears to be kept unduly in the background; but as far as it goes, the treat-

¹ Cf. *Introductory Text-Book of Logic*, 3rd ed., pp. 81, 88, 110, 158.

ment is sound and suggestive. The logically ultimate Subject is taken to be the limited "universe of discourse" to which the thought-interest (which inspires the Judgment) has reference (p. 118). The author says that Mr. Bosanquet's interpretation of the Subject of the Judgment,—which presses "subject of discourse" back upon "reality as a whole" or "the real world as a whole," and takes the real world as a systematic whole to be the ultimate or absolute Subject,—involves "a clear disregard of reference to purpose". This appears to be more true of Mr. Bradley's interpretation than of Mr. Bosanquet's. The latter, while agreeing with Mr. Bradley that the *ultimate* Subject lies beyond the S and P of the ordinary analysis, does not dispense with or interfere with the ordinary analysis, which must be used whenever the Judgment forms part of an inference.

The only section which I find difficult to understand is that which deals with the Aristotelian *dictum* and criticises the idea of a general law being "applied" to a particular case. The arguments appear to rest on restricted definitions of terms which might be otherwise defined—as when the author says: "If, dissatisfied with the *dictum* we seek for a conception that can inspire the systematic application of Law to Fact, we must turn, not to any mere principle of Deductive Inference [by which is meant apparently 'Formal' Deduction] but to that larger process of Deduction of which the aim may be correctly defined as 'the valid application of systematised knowledge to unsystematised fact'". I believe it can be shown that the principle of this "larger process of Deduction" is essentially of the nature of the Aristotelian syllogism of the First Figure, and capable of being expressed in the general form given by Aristotle for the supreme Canon of Inference. This is true of Inductive Inference itself. Even Mill—that champion of pure Induction—had more than a glimpse of this when he spoke of a certain principle as "the *ultimate major premiss* of all Induction".¹

These detailed comments have already been unduly extended, but I can only plead as an excuse that the book teems with points of fresh interest. I have little space in which to pursue further points. The exposition of induction with which the volume concludes is excellent. We note the author's remark that the discussion of the principles of Mathematics in their logical bearing is to be taken up in the second volume. This is a subject in which it is more easy for a philosopher to go wrong than in any other that he could take. But the study of Mr. Gibson's first volume leads one to form high expectations of his second, which we hope will appear at no distant date.

S. H. MELLONE.

¹ The reader may be reminded of Ueberweg's sympathetic yet accurate exposition of the Aristotelian view of Deduction in the relative portion of his *Logic*. I have tried to suggest a view of the deeper significance of the Aristotelian principles, *Introductory Text-Book of Logic*, 3rd ed., ch. vii. § 7, and note B, ch. viii., § 3 (cf. p. 384).

1. *Die Kindersprache. eine psychologische und sprachtheoretische Untersuchung.* Von CLARA und WILLIAM STERN. Leipzig, 1907. Pp. xii, 394.
2. *Erinnerung, Aussage und Lüge in der ersten Kindheit.* Von CLARA und WILLIAM STERN. Leipzig, 1909. Pp. x, 160.

ALL serious students of children and their ways will welcome the projected series of monographs, of which the two cited above have already been issued. Child-Study, though fortunate in the breadth of interest to which it appeals, especially in America and Germany, is not always fortunate in the work issued in its name. For, provided the work is sensational enough in character, and revolutionary enough in aim, it does not fail to secure an audience and an influence altogether disproportionate to its merits. This excites the wrath of experts, to wit, the animadversions in Prof. James's *Talks to Teachers*; but I regret to say that their wrath is of little avail in checking the outflow of unverified guesses and startling conclusions which still form much of the pabulum of Societies for Child-Study. Such work cannot be put out of court by merely negative criticism; it can only be displaced and superseded by such work as is now under review.

The authors have three young children, and, for a series of years, they have watched their development and recorded it at the time of observation—a very necessary step.

They give us facts enough to render us somewhat independent of their own conclusions, with which, however, we need rarely quarrel, for they have avoided the root error of many earlier writers, who have transferred a complete analysis of the adult mind by direct projection into the mind of the child. As the authors say of one of these writers: "Es wird manchmal zu viel in das Kind hineingelegt". They rightly protest against a psychology which treats the child as an Homunkulus—the view which was once expressed to me by a teacher in the words: "Children are the same as we are, only smaller". Truly enough we wish to train them to become complete and efficient men and women, as far as their natural endowments will permit. But it can only lead to confusion psychologically if we base the psychological science of childhood on the conclusions valid in adult life. The authors indeed seem to go somewhat further; if I understand them rightly, they appear to me to incline to the view that any kind of intentional educative process will disturb the natural psychological development of the child and render our conclusions, however valuable they may be for the purposes of experimental pedagogy, of little value as pure psychology. I venture gravely to doubt this. The action and reaction of the individual and his environment continuously goes on whilst life exists, and goes on very rapidly in childhood; we cannot escape from the educative process: and it seems to me well, if our conclusions are to be valid on a large scale, to control our environment in definite ways, that is, to

adopt an experimental rather than an observational method. But I guard myself against denying very high value to the method which merely stands aside and watches. They also serve who only stand and wait, but they must wait watchfully and wisely.

The writers do not confine themselves to the evidence and conclusions drawn from their own children. As is usual in German work, full reference is made to the work of other German writers; and, as is not so usual, American work receives full recognition; nor is English work—what there is of it—neglected; the references to the work of Frenchmen are somewhat less numerous, I incline to think, than would have been justified by the facts. And the bibliographies are indeed most valuable to the student of children, especially because, in the first place, scattered articles *are* included, and in the second place, *only* those books and articles dealing definitely with the subjects of the monographs are included.

The authors' monograph on *Kindersprache* is divided into three parts of approximately equal length; firstly, we have a chronological account of the speech development of two of their own children; secondly, a section on the psychology of children's speech, and thirdly, a section on the special characteristics (*Linguistik*) of *Kindersprache*. The authors state, and I heartily agree, that the clearest expression of the mental development of a child's early years is found in his speech, and that, in the most recent child psychology, speech development occupies the largest place. I do not feel very hopeful as to the practical value of a child psychology developed merely on the estimation of minute sensational differences, though even this is not entirely without value; but about the practical value of a really sound account of the natural linguistic development of children there can be no doubt, especially for teachers. And why should not even philologists, as the authors say, find our growing speech—in living process before their eyes—of more value for their purposes than the petrified remains of dead languages? Of course one can work both ways, from the child's language to primitive tongues and *vice versa*. All forms of speech occur, as I take it, and occur quite early—the outcome of emotion, the expression of thought, the result of parrot-like imitation and the outcome of the conative impulse to utter articulate sounds. It remains to be seen just how and how much these several lines of development contribute to the growing speech of the child.

Much, very much of the chronological work is arranged on a grammatical classification. If our teachers could only know how grammatical distinctions arise and grow, they would cease to regard and to teach grammar as a dead and formal thing. In the second part of the book there is a chapter of special value to teachers on the order of the development of the Parts of Speech and the order of the development of the distinctions within the parts of speech themselves (*Kapitel xv., Die einzelnen Wortklassen*). The contradictions between different authors, though not vital, raise the diffi-

culty which one always feels when a few children only in particular family groups form the sole data for our conclusions—we feel that we are not escaping individual variations. One interesting point which was quite new to me occurs in the treatment of the verb, to wit, that the child uses subjunctive forms early, but with indicative meanings. As the writers say: “The early interest of children is throughout realistic, possibility is reality, to appear and to be are not divided”—a standpoint from which I have myself ventured to criticise and limit the Imagination theory of early Play.

The third section of the monograph deals with the special characteristics of children’s speech—their mistakes, their stammerings, their imitative sounds, their inventiveness, their syntax, their word-building, their etymology. I must content myself with one extract on invention, which I commend to Froebelian pedagogues. “Die wahre Spontaneität der kindlichen Wortbildung äußert sich nicht im Schaffen aus dem Nichts, sondern im frein Schalten und Walten mit dem gegebenen Material.”

Let me now turn to the second monograph, which deals with “Erinnerung, Aussage und Lüge” in early childhood. A slight departure is made from a purely observational method and a coloured picture is used with valuable results as a test of “Anschauung, der Aussage, der Intelligenz und der Sprache”. But why, may I say *en passant*, contrast intelligence with observation and perceptual judgment; is not intelligence manifested in both the latter functions? And may I suggest that the order in which the words ‘Erinnerung’ and ‘Aussage’ appear in the title may be misleading psychologically to English readers? We are rapidly ceasing to base perception on imaged revivals, and, as the author himself asserts, Recognition (I would say rather Cognition) is the propædæutic of memory, and even this is preceded by a feeling of familiarity which is below and beneath cognition. Memory, except in an inferred and physiological sense, does not exist in these early stages, the perceptual judgment precedes it—of course, I do not assert that the judgment is always verbally expressed, though it may be expressed while there is no memory, properly so called, of what is named. It is very pleasing to find a highly competent observer and psychologist definitely asserting the extreme weakness of memory in early years. Mr. H. G. Wells, in *Mankind in the Making*, strongly countered the current view that memory functions most vigorously in the earliest years, but his declaration lacked the authority and basal facts which support the declaration of these authors. Statistical researches of my own show the unprofitable nature of attendance at school in early years, and I incline to think that mnemonic weakness is responsible for much, if not for all, of the lack of result from early teaching.

This book, like the other, is in three sections—a chronological account of the development of the authors’ children, a general psychology of the declaration of perceptual judgments (Aussage)

and a section on the practical applications of the conclusions arrived at in the preceding sections. Teachers, yes and other persons more than tinctured with psychological knowledge, have been accustomed to explain most of the errors of perceptual judgment as due to 'schlechtes Gedächtnis'. The authors show how many other factors may be responsible and relieve memory from some of the odium thrown upon it. I should like to have seen an analysis which would put upon our old educational friend 'Apperception' the perceptual errors for which it is responsible; but, if the authors have done this, I have missed it.

'That is wrong, this thing is not x , it is y ' is the form of much so-called correction of errors in perceptual judgment. The authors tell us, truly enough, that this correction 'hat meist nur eine sehr oberflächliche Wirkung'—a reproof which I think is all too light for the pedagogical error involved in the practice. An interesting chapter on Children's Evidence closes the third section, from which I have been able only to cull a few salient points.

Perhaps I may find space for one or two further notes on the preceding and more strictly psychological sections. In perceptual judgment the child mixes what he sees with what he knows and remembers; there is no calling up of images and deliberate comparison with present sensation—the doctrine of perception beloved by the English classical school. Early perceptual judgments are complications rather than associations, as Prof. Stout has always insisted. I must, however, enter a *caveat* against the authors' interpretation of error in the child's misuse of colour names; they are disposed to regard them as wholly caused by previous associations of different colours with the same object. I suggest that they may be largely the outcome of the lack of the remembrance of sensational distinctions; probably caused by the original sensations from the colours which were confused being much more alike to the child than they are to us. Hilda, aged six years and ten months, confuses in name blue and green, white with light-blue, and green with brown. There is no need of a theory of previous association to explain confusions like these; but I do not reject the authors' theory as an explanation of some of children's errors in the colour names of things, particularly of those of older children.

The longest chapter in the book, and the one in which the authors' hearts are apparently most deeply engaged, is that which deals with experimentelle Aussageuntersuchungen. I venture to translate 'Aussage' as 'assertion based on judgments of perception'. Dr. Stern's work on 'Aussage' is well known, and in this chapter a new interest is added by a research on the effects of continual but non-purposive observation—non-purposive, that is, so far as the experiment is concerned. Hilda, Günter and Eva, whom I already begin to know and like (it would be a pleasure to teach Günter), figure throughout; it is really a chapter on the individual psychology of the authors' own children. But teachers must beware; their grades

of mental activity are much too high if presented as normal, particularly that of Günter, who is only five years old. This is due, perhaps, partly to intellectual parentage, partly to the fact that they have been previously practised in describing pictures. So the work is not *extra-scolaire* in the sense of Binet—whose corresponding work I should like to have seen referred to in this section.

It is a delightful chapter. I wish I could find space to give a full account of it, but I am afraid I must content myself with a few critical comments. Would it not have been better to present the younger work first and so pass *upwards* along the developmental track? And if the picture 'Gänsebild' had been coloured, and, like the Frühstückbild, had been put at the end of the book, it could have been cut out easily and placed side by side with all the text referring to it. This would have been much more convenient for the reader, even if *all* corrections were shown in the square brackets, which they are not. And much as I appreciate the profound knowledge of children shown by the authors, I get a little impatient of psychological explanations of difficulties undertaken on consideration of such few cases—I want to heap up many more cases before resorting at all to the explanation of difficulties; which, indeed, the results on a bigger scale often show to be apparent only.

I am strongly convinced that 'Aussage' not only forms an excellent test of the mental level of a child, but that 'Aussage' methods will finally revolutionise infant school teaching, which is still too sensational and Froebelian. As is now well known, 'Memory' is an extraordinarily potent factor in all this work and the cleverer children show the best memories, even improving in memory after an interval of as much as eight days between impression and reproduction; on the other hand, the younger and weaker child goes down, just as the overstrained *savant* of middle age does. I am more than a little doubtful about explanations of superiority which seem to depend on 'images,' and, on page 99, there is an echo of Prof. James's 'big, booming, buzzing universe,' which is *not* the world of the child. Very striking and, I think, true, normally, is the statement that, with children, accuracy of memory and spontaneity of expression go together. But all these relations must be measured by large scale methods before we feel any security. I leave this chapter with regret.

The chapter on the Self-consciousness of children (Das Sich-Besinnen) is interesting; and, provided that we interpret it to mean self-knowledge, seems to me sound. But, surely, the early stages of conative consciousness can hardly imply (a) the noting of a want, (b) the belief that we can gratify it, and (c) the striving to carry it out. Such a scheme, I suggest, too highly intellectualises the earlier stages of self-consciousness.

I feel, however, that my reader is in danger of supposing my disagreements with the authors are more numerous and fundamental than they are, owing, doubtless, to my misplaced emphasis.

On the contrary, I have read no sustained work on early childhood with which I am more in agreement, and I look forward with pleasure to deriving profit from the ensuing publications in this admirably projected series of monographs.

W. H. WINCH.

Plato. By Prof. A. E. TAYLOR. London: Archibald Constable & Co., Ltd., 1908.

THIS is an important little book. Plato-scholars will find their problems discussed in it with the insight and independence which Prof. Taylor always brings to his treatment of philological and philosophical subjects; while amateurs will carry away from it, especially from chapter iii., 'The Soul of Man—Psychology, Ethics, and Politics,' a good general view of the character and significance of Plato's thought.

Having said this about its value for amateurs, I shall confine myself to the book as it addresses itself—sometimes between the lines, sometimes more explicitly—to Plato-scholars.

Those who are acquainted with Prof. Taylor's *MIND* articles on the *Parmenides* will be prepared to find that, in this book, he dwells insistently on the Doctrine of Ideas as Methodology, and has little to say about it as 'Metaphysics'. This I look upon as a great merit in his treatment of the Doctrine. In proportion as an expositor of the Doctrine of Ideas ignores or underestimates its methodological significance is he likely to be found enlarging on its 'metaphysical import'. Prof. Taylor is not one of those who weary us with their talk about 'the metaphysical reality' of the Platonic Ideas, solemnly warning us that this reality is something entirely different from the mere 'scientific truth' of the 'Socratic *εἶδος*'; but, when asked to explain how the 'metaphysical reality' of the Platonic Idea differs from the 'scientific truth' of the 'Socratic *εἶδος*,' cannot do so—merely put us off with variously phrased reiterations of their original assertion that the truth of the *εἶδος* aimed at, or reached, by the 'Socratic method' of the earliest Dialogues is 'made valid' in later Dialogues by the recognition of universals as 'metaphysically real'. One wishes that Socrates were here to cross-question these myopic people and to discredit once for all a tradition of piecemeal exegesis which has succeeded in marking off Plato's text as the special preserve of scholasticism and in making his thought insignificant. Prof. Taylor's little book, then, is to be welcomed as opposed in its whole spirit to this scholastic tradition and as actually bound by its trammels to no very serious extent. "My object," he says, "has been to sit as loose as possible to all traditional expositions of Platonism and to give in broad outlines the personal impression of the philosopher's thought which I have derived from repeated study of the Platonic text."

As I said, it is as Methodology that Prof. Taylor understands

the Doctrine of Ideas. "To sum up," he writes on pages 71, 72, "Plato's doctrine of 'Ideas' seems to culminate in the thought that the whole existing universe forms a system exhibiting that character of precise and determinate order and law of which we find the ideal type in the inter-connected concepts of a perfected deductive science. When he says that sensible things are 'copies' of the Ideas which are the true objects of science, what he means is that they exhibit everywhere what we now speak of as 'conformity to law'. But for Plato, we must remember, the conformity is never complete in the sensible world; there is an element in all actual sensible experience which defies precise measurement and calculation. Absolute and exact 'conformity to law' is to be found only in the ideal constructions of a pure conceptual science. Or, in other words, so far as such uniformity is actually 'verifiable' in 'experience,' it is only approximate; so far as it is exact and complete, it is always a 'transcendent' ideal. And here, again, his conclusion does not seem to be very different from that of the profoundest modern reflexion upon science and her methods."

I will not start the question whether Prof. Taylor is right in regarding the Doctrine of Ideas as only methodological; it is sufficient for my present purpose of indicating the great importance of his little book, to call attention to the fact that it does not, like most recent works, ignore altogether, or underestimate, the methodological significance of the Doctrine, but, on the contrary, dwells on it, and exhibits it with quite remarkable clearness and comprehensiveness of survey. There is no piecemeal exegesis in Prof. Taylor's book. The Doctrine of Ideas, for him, is solid throughout the whole series of the Dialogues (see pp. 46, 47). But where does it first appear? Prof. Taylor holds, with most critics, that it does not yet appear in the earliest Dialogues, those of the so-called 'Socratic Group' (see p. 26). Here I venture to differ from Prof. Taylor and the critics: and I do so because I attach paramount importance to the position which 'The Good' occupies in these earliest Dialogues. The one point always insisted upon by the 'Socrates' of these Dialogues is that no $\epsilon\acute{\iota}\delta\omicron\varsigma$ is to be taken separately, but must always be viewed as a member of the System of 'The Good'. We therefore have not to go on to later Dialogues in order to see the $\epsilon\acute{\iota}\delta\omicron\varsigma$ of the Socratic Group 'made valid'—that is the stock-phrase—by being transformed into something entirely different, into the 'Platonic Idea'. It is already the 'Platonic Idea,' for the 'Platonic Idea' is just the specific form or $\epsilon\acute{\iota}\delta\omicron\varsigma$, in each case, viewed, as the 'Socrates' of the earliest Dialogues insists that it must be viewed, in the light of 'The Good,' the System to which it belongs. The Dialogues of the 'Socratic Group' with their insistence on the primacy of 'The Good' anticipate what is essential in the passage at the end of the sixth book of the *Republic* where the Doctrine of Ideas receives its most ample expression as Methodology. I do not find evidence in his book that this point has struck Prof. Taylor; although I venture

to think that it is one the importance of which he is bound, on his general view of the methodological significance of the Doctrine of Ideas, to recognise. Of course, that the conventional expositors, who entirely ignore, or underestimate, the methodological significance of the Doctrine of Ideas, should fail to recognise the Dialogues of the 'Socratic Group' as important for that Doctrine need cause no surprise. And there is another reason why I venture to call Prof. Taylor back to the 'Socratic Group'. These Dialogues, concerned, as they are, with what is most essential in the Doctrine of Ideas regarded as Methodology, with the relation of the separate εἰδῆ to 'The Good,' with the inherence of the separate concepts of scientific thinking in a connected system of knowledge, deal with their methodological theme without giving evidence of the influence of mathematics which Prof. Taylor holds to have been that to which Plato's Doctrine of Ideas must be primarily traced. The environment of the Doctrine in the earliest Dialogues is ethical, not mathematical; and this, indeed, its environment continues to be—in the *Phædo*, in the *Republic*, in the *Phædrus*, in the *Symposium*; while even in the *Theætetus*, *Sophist* and *Parmenides*, where Plato's task is to make explicit the general or *a priori* conditions of thought (τὰ κοινά, τὰ μέγιστα τῶν εἰδῶν, he calls them to distinguish them from the specific forms sought for in various departments of inquiry), the influence of mathematics does not seem to me to be particularly in evidence. Of course I do not deny that the author of the educational curriculum outlined in the *Republic* attached great importance to mathematics as the discipline which prepares one naturally capable of connected thinking (τὸν συνοπτικόν) for the large exercise of his capacity in 'dialectic'; but I cannot follow Prof. Taylor in restricting 'dialectic' as he seems to restrict it in the following passage (p. 69)—"Something like the reduction of pure mathematics to exact logic effected by writers like Peano, Frege, and Russell, was avowedly the goal at which Plato was aiming in his 'dialectic'"—and see also pages 56, 57. This view of the goal of 'dialectic' seems to me to make the distinction between προοίμιον and νόμος (see *Rep.*, 531 D) insignificant. 'Dialectic,' I take it, has little to do with the aim of modern 'logistic'. The ἰδέα τοῦ ἀγαθοῦ, the ἀνυπόθετος ἀρχή, which the Statesman must lay hold of, is something greater than the ultimate logical ground of mathematical principles; it is nothing less than a connected view of the whole world which makes, not only the ὑποθέσεις of mathematics, but the principles of all the special 'arts,' and especially the principles of the 'art' of conduct, intelligible. I cannot suppose that Prof. Taylor would deny this—indeed there are passages in which he affirms it; but the close parallel which he draws between 'logistic' and 'dialectic'—even when the difference between them is explained (see p. 57)—leaves one with the impression that the Philosopher-King, according to Prof. Taylor, will regard the Philosophy of Mathematics as the chief end of his Dialectic. This is certainly not the impression which the *Republic*

leaves one with. I cannot help thinking, then, that Prof. Taylor's view of the influence of mathematics upon Plato's Doctrine of Ideas is somewhat exaggerated, and that it gives his, in the main, excellent sketch of that Doctrine as Methodology the appearance of being a little out of drawing. Indeed I would go the length of saying that Prof. Taylor is sometimes led by this view to commit himself to *obiter dicta*, like that on page 52—"Where 'experience' begins, science, in Plato's opinion, leaves off"—which, if taken literally, would empty the Doctrine of Ideas of any methodological significance whatsoever. Surely Plato believes in the possibility of 'Political Science' as a construction of thought for which 'experience' supplies the data. Political Science is just the interpretation of certain data of 'experience' by means of 'Ideas'. To say that "where 'experience' begins, science leaves off" is to say that the Ideas exist without function—that to regard them as explaining particulars is not to regard them as 'science' requires. But this can hardly be the meaning which the writer of the *MIND* articles on the *Parmenides* really wishes to convey.

It is in conformity too with Prof. Taylor's, I think exaggerated, view of the influence of mathematics upon Plato's Doctrine of Ideas that he says (p. 94): "For the Platonic *Philosophy* the myths can hardly be said to have any direct significance. For in Plato's opinion knowledge is entirely concerned with the transcendent concepts of pure deductive science. . . . The notion common since the days of Neo-Platonism, that the myth is the appropriate form in which to symbolise truths too sublime for rational comprehension is entirely foreign to Plato. It is precisely when he is dealing with what he regards as the ultimate realities that his language is most 'scientific' and least mythical." Here Prof. Taylor seems to me to limit the scope of 'Platonic *Philosophy*' unduly. For what are these 'transcendent' concepts with which 'knowledge is entirely concerned'? They are, *qua* 'transcendent,' *Ideals*, as Prof. Taylor himself points out in an excellent passage on pages 48, 49. It is as *Ideals*, then, I would submit, that the concepts with which 'knowledge is entirely concerned' find natural expression in myth. Thus the *Republic*, taken as one great whole, is a myth setting forth the 'transcendent concept' or Ideal of *Justice*. This is the broad truth of the matter, and is not contradicted by the numberless passages, in the *Republic* and elsewhere, in which that and other concepts are expressed in the language, not of myth, but of science. The scientific expression, the definition, of an Ideal, it must be remembered, is necessarily subsequent to our experience of its attractive power. This experience, belonging, as it does, to the conative rather than to the cognitive part of human nature, finds its natural expression in the visions and language of myth: then comes the time when the attempt is made to 'define' the Ideal. But the 'definition' can never be final. This we now see clearly. We see that it is in virtue of its attractive

power, not as 'defined,' that the transcendent concept or Ideal is 'eternal and immutable'. How does Plato stand here? Is there a sense in which he may be said to see as we do? Against the numberless passages in which he uses the language of 'conceptual realism' (see pp. 43 ff.) about the 'Ideas,' speaking of them as 'eternal and immutable' objects of scientific knowledge, it is only fair to set the weighty fact that, together with Soul, Cosmos and God, they also find mythical expression in his *Philosophy*. It is evident that he is not entirely satisfied with the 'conceptual realism' which yet bulks so largely in his writings. The attractive power of the Ideal, as well as its clear definition, claims his attention. What I would call 'aesthetic realism' finds a place in his system by the side of 'conceptual realism'. But I will not go into this matter, or discuss the adjacent question whether Prof. Taylor is right in regarding the Doctrine of Ideas as only methodological. This notice will serve its purpose if it calls the attention of Plato-scholars to a book the size of which must not be taken as measure of its importance as an able exposition of a too-much neglected subject, the methodological significance of the Doctrine of Ideas.

J. A. STEWART.

Idealism as a Practical Creed. By HENRY JONES, LL.D., Professor of Moral Philosophy, University of Glasgow. Maclehose, 1909. Pp. 299.

PROF. JONES'S book is the substance, perhaps I ought to say the highly finished product, of the material of a course of lectures delivered before the University of Sydney on Philosophy and Modern Life. By a happy thought it is addressed to the young Australian people and reminds us of some historical addresses by German philosophers to their rising country at the beginning of last century. The analogy seems to have struck the writer himself, who begins with a quotation from Hegel's inaugural lecture to his students at Heidelberg in 1816, and develops through seven lectures an eloquent summons to "self-contemplation and self-reflection" with a view to employing "more fully and less wastefully the greatest of all the energies of the world, namely, those which reside within a people's character". In this, which may be called the practical and edifying aim of the book, the readers of MIND may be supposed to be less interested. But, as we might expect from the writer, his chapters have another side. "Man," he tells us, "is never at his best or highest except when he is in touch with ultimate issues." The reader feels that Prof. Jones has this touch from the beginning, and succeeds in giving us in wonderfully short compass and in highly literary form the ripe conclusions of his own thought and experience upon some of the main philosophical issues of our time. From this point of view the book may be regarded as a freshly stated argu-

ment for Idealism in the sense which Green and Caird have made familiar, falling into three parts: the light it throws on the history of civilisation; on the assumptions that underlie the teaching of the spiritual leaders of last century; and in the deeper spiritual needs of the time, its answer to the "call of the age". The first part consists of three finely conceived chapters on Freedom, "first the blade," "then the ear," after that "the full corn" in the ear. Man is by nature free, but "the nature of a thing which grows is the last of all its achievements". "A developing being is what it can become, and yet it must become what it is." In the case of man this last achievement is free devotion to the life of the spirit as it manifests itself in man's highest productions, whether as the State, knowledge, art or religion. It is reached through a process involving the successive stages of unconscious assimilation of an outer social environment, the withdrawal into the inner and individual as something opposed to it and the reconciliation of inner with outer through the insight that, however apparently external, the latter contains the promise and potency of the spirit's own inward reality. Inasmuch as from the second of these stages we look back on the first, in which the individual lives in custom and accepts direction from the law and consecrated authority which support it, we are apt to conceive of it as the age of faith as opposed to reason. But this is to forget whence tradition has derived its power. "Great and powerful as a people's tradition is it has been built up like coral islands amidst the deep from the many little reasons and insignificant purposes of insignificant man." "There is no customary opinion which was not once a bold conception, and no habit which was not at one time a venturesome enterprise." In turning its back therefore upon tradition reason is cutting itself off from its own substance—seeking to make for itself a habitation in the void. From this it only returns when "truths are discovered in the repudiated creeds, institutions which are useful and ways of life which are honourable and of good report are found among the *débris* of the old social and political world".

All this is familiar to the student of Hegel's philosophy of history, but if it is true we cannot be too often reminded of its bearing on our view of the world. "Any one," says Eucken in a similar connexion, "who is ready to deny that there is truth in such a movement as this must have a very low opinion of the forces which have been and are at work in the world. The man who undertook to prove that this movement was nothing more than a product of human self-will would find that the logical development of his principles made it very difficult for him to escape absolute scepticism." The moral that Prof. Jones draws is also one which the German leader, of whom he reminds us, presses in his *Life of the Spirit*, viz., that the practical business upon which the world is now engaged, "whether in its commerce or its industries, or in its science and philosophy, or in the battles of the sects and the war of the

politicians," is that of making real the ideals of those who seek to find in the complex conditions of modern life and with the fulness and universality demanded by Christian democracy the freedom and rationality that the Greeks discovered in a brilliant simplification.

In the sections that follow the writer shows the same powers of literary interpretation that are familiar to the readers of his *Browning*. Those who object to the Hegelianising of poetry will find much of their criticism blunted by the excellent sections on the relation between poetry and philosophy, the conclusion of which is that the quarrel between them, like other quarrels, "is apt to disappear when the combatants are at their best". Real poetry has "its enduring view of life," while philosophy when it is truly alive is ever seeking to break away from the mechanism of "system" and to show itself as the life-pulse of an expanding comprehending experience. Like poetry and religion itself it has come not to strangle experience in the serpent grip of logical formulæ, but that experience may have life and have it more abundantly.

Nevertheless the first effect of Idealism may very well seem to be to increase the discord that thought when applied to our deeper experience brings with it. It seeks to justify the identification of the Divine with the good in human life, which is the breath and spirit of all poetry. But in implicating God with the good do we not implicate Him also with the bad? Granted "God in Us" for good, is He not in us for evil also? It is to the question in this which he takes to be its ultimate form that the writer addresses himself in his last chapter, to which the readers of *MIND* will naturally turn for his contribution to current speculation. The treatment they will be apt to complain is too cursory. Starting from the position that evil is no illusion, the writer puts the question whether it stands out as a mere external limit of good or is a relative reality, and presses the alternative on the notice of those who are tempted to put forward certain "hybrid schemes" which evade instead of solving the problem. In the former case nothing stands between us and a broken and in the last resort a hopeless world. Good, we are told, is everywhere limited by evil and is only known to us in the making. This may be true enough, but if this is all that is to be said, to what are we to look for the making of it? If, on the other hand, we have advanced beyond this mere opposition to a real relativity we have got beyond the mere duality of the terms; we have sighted a unity beneath them and raised the problem to a new level. But the difficulty remains as to the mode of interpreting the unity. Here again the writer finds himself faced by two alternative interpretations. Either it is a *tertium quid*, in which the opposites disappear, or it is to be found in the dominant quality of one of them. The argument is here highly condensed, but it leaves us with no doubt as to where Idealism, as Prof. Jones understands it, must take its stand. Correlation is not necessarily co-ordination, but is com-

patible with the dominance of one of the correlatives. The higher we go in the scale of objects the more do we find that the poles of Nature's opposites disequilibrate. "Environment and organism, object and subject, means and purpose are mutually implicative, but they are not upon a par. And it is possible that error and truth, evil and good, necessity and freedom, nature and spirit, the finite, the infinite are in like case."

Considering the limits it is perhaps ungracious to ask for more when so much is given, but Prof. Jones would be the last to tolerate the suggestion of untempered mortar in any part of his foundations, and he will be the first to forgive the attempt to indicate where under freer conditions the argument would seem to require strengthening. Granting that correlatives need not be co-ordinates, but that one side may take the lead and dominate, what does such dominance mean? It will not be contended that it means the simple annihilation of its opposite. It must clearly be conceived of as some sort of assimilation or absorption. But in that case we have to explain how evil can thus enter, and, as we must suppose, enrich the contents of the result and yet remain real evil. But a more serious point remains. Granted we can explain how unity is reached by the subordination of one of the elements, how good triumphs over evil, the infinite and universal over the finite and particular, on which side are we to say that individuality falls? Are we to look for it on the plane of conflict in the flash of the encounter, the 'spark' of the opposite fields, or in the whole or system of which the sparks are a mere effluence. In the first case we have a theory which may possess all the inspiration the writer claims for it, but hardly one that corresponds to current theism. In the second case we leave room for a form of theism, but is it not at the expense of setting up just such a *tertium quid* and recurring just to the alternative we rejected at a previous stage of the argument? These are no doubt some of the "difficulties of its own" which the theory, on the author's admission, brings, and he will tell us they are another and a longer story. We agree, but it is because we have the one from him that we want the other also.

J. H. MUIRHEAD.

VI.—NEW BOOKS.

La Morale Rationnelle dans ses relations avec la Philosophie Générale.
Par ALBERT LECLÈRE. Paris: Félix Alcan; Lausanne: Payot et Cie, 1908. Pp. 543.

M. LECLÈRE in his book undertakes a great enterprise. He sets out to construct an Ethics which shall be Rational and at the same time in accordance with Common Sense—with the natural deliverances of the Moral Consciousness. (By Rational he means *a priori* as distinct from *a posteriori*, empirical, merely particular.) This ambitious endeavour is carried through with great spirit and supported by wide learning; and a courageous attempt is made to deal with two problems which are perhaps the most difficult in Ethics: (1) the relation of what *ought to be* to what *is* (of Good to Reality); and (2) the competing claims of Self and Others (which has often presented itself as the conflict between Happiness and Virtue). For the solution of the first of these it is clearly necessary to go beyond the region of Ethics itself—in fact the question is one of the deepest in Philosophy. As we shall see, M. Leclère attempts to solve it by identifying Good and Being, Being and God. As regards conflict between the claims, for any moral agent, of Self and Others, it is attempted to solve this by identification of the Being of Self with the Being of Others—and further, that of Self and all these other Beings with the Being of God.

I will indicate the order of topics in the book, and examine briefly some of the positions above referred to.

Part i. is concerned with the Foundations of Rational Morality and part ii. with (1) Theoretical and (2) Practical Morality. The first part contains chapters on the idea of a Rational Morality, the Relation between Morality and Religion, and between Science, Philosophy and Religion. Then follows a chapter on the comparative value of the fundamental Types of Ethics—including the Hedonist, Sentimentalist (the school of Moralists who regard Ethics as a theory of Moral Sentiments), Metaphysical, and Critical forms. This study of Moral Systems is succeeded in chapter v. by a more concrete and historical treatment of the same topic.

Book i. of part. ii. considers Inductive Ethology, Etho-Criticism, Meta-morality and Deductive Ethology, and book ii. contains a preliminary chapter on the ultimate principles of Practical Morality, followed by a consideration of (a) Individualistic (or Self-regarding) Morality, and (b) Social (or extra-regarding) Morality. From (a) and (b) are deduced in succeeding chapters the Morality of the Family, and Civic and Cosmopolitan Morality, and the closing chapter is concerned with Religious Morality within the limits of Philosophy.

The author announces his general aim to be that of outlining Rational Morality in its relations with Philosophy (from which he holds it to be inseparable), and of thus establishing a doctrine that may bring together

the most different minds, and receive a development possessing general coherence, and unity of principle. This principle, M. Leclère goes on to say, is Reason itself, which is essentially one, and everywhere identical. The poetical Idealism of some Moralists with their flights of fancy, is, he observes, as unsatisfactory as the rigid scientific procedure of others, who tend to identify Morality with positive knowledge. He passes to 'Traditional Criticism' which is said to indicate, when duly interrogated, that the right ethical method is just to seek that which Kant desired but despaired of finding—namely, a means of connecting the essential ideas of morality with the idea of Pure Reason—with Thought itself. Morality in fact requires an *absolute basis*, and must be founded on Metaphysics, for it must somehow be linked to reality, and since it cannot be so linked by Science (=Science of what is, which can only provide a Prolegomena to Ethics) the connexion must be by means of Metaphysics—a Spiritual Metaphysics moreover, such as, *e.g.*, the Monadism of Leibniz—Morality being concerned with the psychical and not with the material.

As regards the relation of Ethics and Religion the view is taken that all religion is extra-philosophic and that therefore it needs to be kept distinct from both Philosophy and Morals.

The methodological considerations of the chapter on the relations of Science, Philosophy and Morality lead up to a detailed definition on page 90, according to which Morality is the Science of the positive conditions, individual and social, of the normal moral judgment; of the relation of this judgment to Thought in general, and of the object of the judgment to Being in general; finally, it is the Science of the means which knowledge may use to bring about the harmony of the moral judgment with the nature of the being who pronounces it, and of the universe to which he belongs.

At the end of chapter v. (Fundamental Types of Ethics) the conclusion is reached that the ethical point of view satisfactory to Reason is a synthesis of systems, in which a 'Spiritual Metaphysics' is accepted and the 'Critical' position adopted that all ethical principles theoretical or practical have a genetic relation to Thought. In this Synthesis, Experience bears its part, and contributes knowledge of the facts of the moral life. And this point of view is supposed to be that to which normal thought (Common Sense) is naturally disposed (p. 177).

It is, of course, not possible even to glance through the historical sweep of chapter v., which ranges from Antiquity, the Middle Ages, and the Renaissance, to the 'Modern' (or 'Contemporary') ethical thought of France, England and Germany. I will allow myself, however, a few remarks on the section which deals with English thought.

On page 264 M. Leclère groups together "*Les Cudworth, les Cumberland, les Clarke, les Wollaston, les Price*," as moralists who are "too exclusively logicians; who see, in the Good nothing but the general realisation of the True by voluntary action". But, to quote Sidgwick's *History of Ethics* (to which M. Leclère refers in another place)—"for Cudworth the distinctions of good and evil have an objective reality cognisable by reason, no less than the relations of space or number." and Cumberland "is noteworthy as having been the first to lay down that 'the common good of all' is the supreme end and standard, in subordination to which all other rules and virtues are to be determined". And Price (more than a hundred years later) "takes pains to exhibit the self-evidence both of universal benevolence and of rational self-love". Indeed it is only as applied to Clarke and Wollaston that M. Leclère's statement is in any degree plausible, and even of their views (and especially of Clarke's) it presents a one-sided and therefore unfair account.

There is a strange inversion of the title of Mandeville's book when it is said (p. 262) that he "opposes to the private utility of virtue the social utility of vice". And when on page 263 it is said that "*Butler* speaks of duty in a fashion which we could not have expected from a Sentimentalist," it almost seems as though the writer, having for some reason labelled Butler with the name 'Sentimentalist,' were guided in his judgment of what that great Moralist ought to say rather by reference to this name, than by reference to the whole tenor of his ethical thought.

Again on page 268 we read that "*Les Lewes, les Sidgwick, les Murphy, allèrent depuis Mill où allaient de leur côté, depuis Spencer et Darwin, les Clifford, les Baratt (?), les Leslie Stephen, vers l'Intellectualisme, vers un Sentimentalisme plus ou moins sociologique et mystique*". To group Sidgwick with Lewes and Murphy, and then to speak of the two former (I know nothing about Murphy) as tending in Ethics towards a "Sentimentalisme sociologique et mystique," indicates an unexpected lack of acquaintance with the greatest of contemporary English Moralists.

Having dealt in part i. with the foundations of Rational Morality, the Author proceeds in part ii. to construct inductively and deductively that Morality itself. The first chapter—Inductive Ethology—is a sort of brief Physics of conduct, obtained by study of human nature at first hand—an inductive empirical study, by means of which we endeavour to grasp moral facts directly in their psychic reality—whereas the business of Etho-criticism in chapter ii. is to demonstrate the *a priori* character of certain of these facts. This service, it is explained, can only be accomplished by processes of pure reasoning altogether different from the observational procedure of ethology.

The concepts of the moral consciousness and their reciprocal relations are examined—Sanction, Merit, Responsibility (which involves Freedom), etc. Sanction—the most complex of these notions and including all the rest—is the idea of (experimentally known) joy or suffering, due to men as good or bad. It includes also the metaphysical ideas of a justice which requires that joy and suffering should be dispensed according to moral worth, of a superior power immanent, transcendent, or purely ideal, of a real and free moral agent, of the effective reality of moral worth, and of the three simple moral ideas of Good, of Right and of Obligation.

The Author affirms that the moral consciousness as here described, corresponds to ordinary morality, and that it is metaphysical, individualistic, and coherent throughout. *Social* inductive Ethology shows that morality, far from being a product of Society, is the principal source of Social progress; the corresponding Ethology of the *individual* logically connects all the content of the moral consciousness with ideas which can proceed only from the individual mind. Psychology, Sociology and Biology all combine to show that this is so, and that Rational Morality could not have had a merely 'empirical' origin (p. 379).

The idea of Good is said to cover the whole region of Ethical thought (p. 336)—there is no simpler idea to which it can be reduced. "Yet, the idea of Good is not self-sufficing, it is necessary that Good should be something other than Good in order to be thinkable." What is this 'Other'? We may no doubt define *the Good as the rational in Being and Action*, and psychologically, the idea of Good is here said to be that *which is Rational and approved*. (It is difficult to see why Good is affirmed to be in itself unthinkable, and how, if so, it can be made intelligible by 'identifying' it with Being—see below.)

Good, the Author proceeds, manifestly includes Right and Duty, and Morality as Rational is connected with both Logic and Ontology. Con-

tinuing, we learn that the only concepts which could possibly serve, as content or filling, to the idea of Good, are those of Happiness and of Being. Of these the idea of Happiness, though heterogeneous to that of Good, is, because of its *a posteriori* character, incapable of furnishing it with an intelligible content. It follows that the idea of Being, which while heterogeneous is also *a priori*, is capable of furnishing an intelligible content, and is the notion which is needed, and the ethological induction of chapter i. is seen to be complete.

We seem thus to have arrived at the Synthetic judgment from which chapter iv. (Deductive Ethology) starts, viz., *The Good is Being*, and in chapter iii. (Meta-morality) it is supposed to be further shown that the idea of Good is the idea of God. God's existence is supposed to be proved by help of the idea of Cause—this idea is declared to be absolutely rational, an essential demand of Reason, the ultimate source of scientific speculation—hence for Reason to refuse to apply the idea of Cause to the world in its totality, would be suicidal. And if Good is identical with Being and proportional to the intensive quantity of Being, God is the Good itself. The mystery of Being without God is greater than the mystery of God, which introduces into Being so much intelligibility (pp. 433-434). This reasoning seems very inadequate, but I have not succeeded (in a somewhat hasty perusal, it is true) in finding anything more convincing.

The oneness of different beings is asserted unconditionally in the following passages (among others): "Identity of nature in all beings, and especially the fact that there is no room either to distinguish one from another numerically, nor our reason from that Reason which is the soul of our own, nor my reason from the reason of my reader, prove directly that my being is essentially bound up with the Being whose one aspect is the Moral Law and his other aspect divine personal reality, as well as with beings similar to myself" (p. 440). And, again (p. 442), "Considering every being as essentially good and even at bottom divine, it [Rational Morality] could not disown the right of the most insignificant being to the respect of others, those others who are that being himself".

If all this is so, there can be no conflict between the claims of Virtue and Self-interest, no need for a Dualism of Practical Reason, no place for any ethical principles except those of self-regarding Ethics. But when we come to the principle given on page 440 as furnishing all that is necessary in the way of guidance—namely, *Be thyself*—it seems (even with the ingenious exposition and deduction on p. 441) to be very unequal to the needs even of self-regarding Ethics, not to speak of the Ethics of Social life, in which the greatest difficulty both theoretical and practical is to reconcile the claims of self and others.

The truth is, that in the effort to rationalise completely, everything that made a process of rationalisation necessary has been got rid of—the real world of mingled good and evil in which we live and move and have our being has been lost sight of entirely—there is no difficulty about unifying because everything is the same as everything else—and nothing is anything in particular. (It is not obvious why the Leibnizian Monadology should have been invoked.) The problem of Evil is so entirely ignored that an unqualified identification of Good with Being is acclaimed as satisfactory. The world is swept clean and clear by a series of verbal 'identifications'.

It is a pity that with so much learning and ability and enthusiasm, the Author should not have found a better way out of some of the difficulties with which thought—actual thinking—has to struggle when it tries to grasp and explain the work-a-day world, and to formulate a rational ethics for men who know that their interests and the interests of

others (not to speak of *themselves*) are *not* always identical—at any rate in this life—and who know, too, that there is Being that is very evil as well as Being that is very good.

Yet M. Leclère often displays both excellent critical insight and impartial good sense—and he sometimes forgets that every Being is every other Being. For instance, he allows (p. 493) that, in spite of the familiar proverb, a man's heart is not more constant than a woman's, and not more capable of strong affection—that marriages often turn out unhappily through the fault of husband or of wife, or both, “or perhaps by the fault of nature which made men and women so different that in some respects they are almost like two different species”.

E. E. C. J.

Psychologie de l'Enfant et Pédagogie Expérimentale. By Prof. ED. CLAPARÈDE. 2nd edition, revised and enlarged. Geneva: Librairie Kündig, 1909. Pp. viii, 282.

The first edition of this little work, which appeared as a collection of magazine articles at the close of 1905, became ‘out of print’ a few months after publication. The author regrets that since then he has not had the time to re-write the entire book so as to treat the subject more systematically and thoroughly. This new edition, however, has enabled him “to convey a more accurate picture of the present state of our young science of pedology and to emphasise the part played in mental life by *interest*, the psychological importance of which is still too little understood by educationists”. He has omitted the chapter on memory which occurred in the first edition, and has substituted a long chapter (occupying nearly half the book) on mental development. This is followed by a chapter on intellectual fatigue and preceded by three short chapters dealing with the history, the problems and the methods of pedagogical psychology. A useful bibliographical summary is given at the close of each chapter.

Prof. Claparède is gifted with an easy pen, and on the whole, his views are distinguished by their moderation and their sanity. Indeed the chief value of the book lies in its very clear presentation of the scope of the subject and of the difficulties that lie in the path of future progress. The chapters on the problems and methods of pedagogical psychology are especially characterised by attractiveness of style and thoroughness of treatment. Doubtless there are several instances where experimental data are given which might advisedly have been introduced with greater reserve. This applies particularly to experiments on the determination of mental fatigue. These are too often accepted without adequate criticism, and it is only later, when the reader passes to the difficulties connected with the measurement of fatigue, that he may, if he have sufficient intelligence, be led to doubt the validity of the data to which he had earlier been too uncritically introduced.

The chief interest in the book centres in the long chapter on mental development. The true pedology, writes the author, “must be attractive: the matter taught must interest the pupil: and the activity that he will employ to acquire it, the work that he will perform to assimilate it and to become master of it, will quite naturally take the form of a game” (p. 120). At the same time, he admits that the child must learn to make effort. But, as he points out, “education of effort is not to be confused with education *by* effort. It is by no means obvious that the latter will bring about the former.” Do you seriously believe, he asks, that *because* you have worried a boy with Latin, he will “offer greater resistance, when a mau, to the temptations of life, be of better conduct, or display greater

courage as a citizen? . . . Let us look around, and we shall find quite the contrary the case" (pp. 121, 122). The author insists that interest must always be the pivot of education, and that *the one interest of which the child's mind is susceptible is that of play*. Intellectual food "must be absorbed with appetite if it is to be profitable to the consumer" (p. 129). He admits that "much has to be learnt although destitute of immediate interest, owing to the need of it later (*e.g.*, the multiplication table, writing or reading). Can the learning of these things take the form of games? Not directly perhaps, but indirectly it can. . . . In certain cases, perhaps, there will be difficulty, but this is exactly where the art of the educationist will reveal itself" (pp. 130, 131).

Enough has been quoted to show Dr. Claparède's views. For my own part, I am disposed to dissent from the most important of them. Looking back to my own childhood, I deny that games have always been my sole interest. Looking at my own children, I find their activities are governed by other motives than those of mere play. Surely from a very early age the germs of love, respect and duty are present, forbidding the child to regard the world as a convenience for the satisfaction of his immediate and selfish interests. And just as surely, it is the duty of the teacher to superintend the development of these germs.

C. S. MYERS.

L'Éducation Morale Rationnelle. Par ALBERT LECLÈRE, Professeur Agrégé à l'Université de Berne. Paris. Price, 3 fr. 50 c.

In the first part of this book the author explains at some length that education is important; that a child is almost infinitely plastic and will become what circumstances and education make him; that the family has great moral influence; that the school is second in importance only to the family; that literature, art, history, and science are useful subjects in indirect moral education; and that morals may also be taught in more direct ways. There is a good deal more freshness and value in M. Leclère's treatment of the education of elder lads and of young men; and he has some excellent remarks on the moralising power of all kinds of "voluntary associations". Most readers, I fear, will be a good deal hindered by the closeness of the print.

HELEN WODEHOUSE.

Kritik der Philosophie vom Standpunkt der intuitiven Erkenntniss. Von Dr. EUGEN HEINRICH SCHMITT. Leipzig: Fritz Eckhardt, 1908. Pp. 507.

The author of this "criticism" of Philosophy admits the right of natural science to make the dualistic assumption that knowledge is a representation or copy of some original; and he traces the failure of "Philosophy" to its inability to rid itself of the same assumption. Knowledge of nature, while it seeks to attain mental representations, as accurate as possible, of the "facts" it encounters in the outer world, takes no account of these representations or images themselves. Philosophy on the other hand deals with these primarily. It has committed the error, however, of regarding them as themselves objects to be represented. The philosopher has done with them what the student of nature rightly does with his sense-impressions—transmuted them under categories and forms of thought. In so doing he has falsified them. His effort ought to have been in the opposite direction. What he is dealing with, in the facts of consciousness, is reality, and the only reality we know at first hand. He should have made it his endeavour to disclose that reality, simply as it is given. With

a "lofty naïveté" he should seek to render his experience as it appears in the wholly unmodified form of "intuitive knowledge".

The writer finds the key to the nature of experience in certain differences of "dimension" analogous to the dimensions of geometrical science—"points" of sensation or feeling, "linear" strivings of the will, two-dimensional objects of sense-perception, three-dimensional objects of knowledge, and further higher dimensions which appear in the functions of thought, æsthetic consciousness, etc. Of these levels of experience—representations of the outer world—each higher amplifies the lower, filling up its lacunæ with greater accuracy and more detail. The true or full representation is made up from all these sources; but by a sort of "unavoidable optical illusion" the thought-function acquires a preponderating importance. Its work had given the picture a degree of adequacy almost infinitely greater than had been possible to the unaided lower functions. Hence its contribution comes to be taken as the only essential one—the rest, those of sensation, perception, imagination, etc., being dropped as irrelevant. Thought reveals reality; what is revealed in the lower phases of experience is appearance only.

The effort to give thought this overweening importance is Philosophy's mistaken way of going about a necessary task. What is necessary is to regain the unity of experience which had been forfeited whenever, in the course of historical development, these "infinite" differences of dimension came into clear consciousness. That such unity is to be attained by reducing all phases of experience to one, namely the thought-form, is a hypothesis the absurdity of which Philosophy has had to demonstrate by successive ages of failure to work it out. And the author devotes the second part of his book to a sketch of the history of the "Ingarten" of Philosophy, in which the main systems from Thales downwards are treated from this point of view. Philosophy's long ineffectual attempt to work an impossible hypothesis was necessary, but only as a clearing of the ground for the real task of philosophy, which is to hold fast to the full reality of all inner experiences, and disclose them as they appear.

J. W. SCOTT.

Das Gedächtnis. By Dr. MAX OFFNER, Professor in the K. Ludwig's Gymnasium, Munich. Berlin: Reuther & Reichard, 1909. Pp. 238. Price 3 marks.

Experimental psychology is comparatively a young science, but it has already so many enthusiastic workers that it is not easy for students of educational principles to keep in touch with the results of their investigations. During the last ten years, and since Ebbinghaus wrote his pioneer book, Wundt, Müller, Külpe and Neumann, not to mention a host of others, have been experimenting upon Memory, and have greatly added to the available knowledge of its conditions and effective operation. The value of this knowledge to all concerned with instruction and education is self-evident. The time was ripe for a clear and reliable review of the results of this widespread and varied experimentation. To provide such a review, and to show the application of the results to education is the aim of this book. The author has arranged his material in a clear and scientific way, and has written a treatise which should be valuable both to the psychologist and the teacher.

In view of the unity of mind, Memory cannot be treated as a thing apart. The volume therefore begins with a survey of the whole field of psychical experience, and an estimate of the place of Memory therein.

Sensation, Imagination and Association are shortly considered, but the

bulk of the book is devoted to the consideration of Dispositions. In the long chapter which deals with the strength of Dispositions, the author has set forth clearly the general outcome of recent investigations on the intensity and duration of the psychical experience, and on the number and nature of repetitions. Light is here thrown on the problem whether it is better to learn by wholes or by parts. The conditions and importance of Attention are naturally considered, and an estimate is made of the value of Rhythm, Rhyme, Alliteration and Assonance.

Chapter VI. is devoted to the questions involved in the stimulation and efficacy of Dispositions, in other words to the conditions of successful reproduction, or effective recall. It contains sections upon reproduction and feeling, and reproduction and Will.

The closing chapters discuss the individual and sexual varieties of Memory, the relations between age and Memory, between Memory and Intelligence.

The 'value of forgetting' is the subject which brings to a conclusion a book which should prove most useful. Its usefulness moreover will be greatly increased by the bibliography and index which are appended.

JOHN EDGAR.

Abhandlungen zur Philosophie und ihrer Geschichte. Herausgegeben von BENNO ERDMANN.

XXVIII.—*Die Philosophischen Lehren in Leibnizens Théodicée.* Von ADELHEID THÖNES. Halle-a-S.: Max Niemeyer, 1908. Pp. 79.

The author's object is to separate the philosophical content of the *Théodicée* from its theological setting, and to rehabilitate it so far as possible as an exposition of Leibniz's system. Beginning with a *résumé* of the controversy with Bayle, he works through his subject to the conclusion that all the leading principles of the Leibnizian system are represented, but that none of them is exhaustively expressed. Ethico-religious considerations predominate, and the dynamical and mathematical aspects of the system are inadequately treated. Traces of the principle of continuity and of the polemic against Descartes' dynamics are made out, but only obscurely. Of the theory of Substance (the later "Monadism") no completely apprehensible account is given, and for the doctrine of matter, which underlies the "Körperlehre," we find a noticeable hiatus. The exact limits of this omission are carefully indicated and the doctrine filled out from the correspondence with Arnauld, De Volder and Des Bosses.

XXIX.—*Über Christian Gabriel Fischers Vernünftige Gedanken von der Natur.* Von AUGUST KURZ. Halle-a-S.: Max Niemeyer, 1908. Pp. 55.

Christian Gabriel Fischer is a writer who lost his opportunities and whom even in his own lifetime, the current of events seems to have stranded on the tide of time: to-day in spite of Erdmann's work, his name is hardly known even in cultivated Germany. Yet if it were only for the enigmatic interest of his labours and their inexplicable cessation in the day of his triumph, he deserves a better fate. A Königsberg professor of the early eighteenth century, burdened with a scholastic method and working with *a priori* ideas upon the encyclopædic problems of the Aufklärung, he is at the same time a forerunner of the modern Fachwissenschaft, and he ends in positivism. As an example of the sort of contradictions that meet us everywhere: "Das ist echt Fischerisch, mitten in einen von

Widersprüchen starrenden antiquierten Gedankengänge, eine bedeutsame Konzeption der Neubildung von Arten vorzubringen". From an early theosophy he goes over to Spinozism. The discovery that "Ontologism tacitly presupposes the whole content of experience . . . opens the door to the influence of Hobbes," and finally, "das Resultat der Auseinandersetzung zwischen Hobbismus und Spinozismus ist der Tolandismus". The present treatise is marked by a subtle but strained characterisation, and though the writer may be wise to abandon his theme to its unreconciled oppositions, he is too apt, considering the tendencies of the age and the great parallels with which it could have furnished him, to make out a special case for Fischer, and to shelter himself from further responsibilities behind Goethe's warning: "Was weiss ein Mensch vom andern?"

XXX.—*Materie und Organismus bei Leibniz.* Von HANS LUDWIG KOCH. Halle-a-S. : Max Niemeyer, 1908. Pp. viii, 59.

Taking as his guiding principle the view that it is not enough to seek a harmony in the system he expounds, and that "the harmonious development of his philosophy from his scientific thought, so often emphasised by Leibniz himself, is not sufficiently appreciated where one sees in Leibniz only the great artist of philosophic speculation, the author, in two chapters condensed from original sources, shows clearly by what stages the conception of "primitive" and "derivative Kraft" are evolved out of initial mathematical notions as regards matter. In contrast to Descartes' identification of body and extension, the early *Confessio Naturæ* emphasises the *existence in space* as the fundamental character. A letter to Thomasius adds impenetrability to the definition, and impenetrability yields the idea of motion, which it implicitly contains. In the *Hypothesis Physica Nova* the idea of continuity is developed, and from this idea, applied to motion, the conception of body as a function of motion is evolved. Motion in turn reveals itself as relative to mind, and all body must consequently have mind as a "principium motus" or "substantia". The idea of motion (along with that of space) having become relative, it is no longer of use as containing an explanation of the future motions of bodies, and this leads Leibniz to the new idea of "Kraft," derived from Huygens. The argument shows how the mathematical and dynamical laws of "Kraft" rest on, and are restricted by, metaphysical principles, from which spring the distinctions of "primitive" and "derivative Kraft" and the relation of soul and body. In the world of consciousness the soul is a unity analogous to "primitive Kraft;" in the world of extension; and, on the other hand, the phenomenal "Scheinbild der Masse" which appears to the soul results from the "confused perceptions"—"in demselben Sinne . . . wie man aus der primitiven passiven Kraft vermöge der Infinitesimalrechnung die derivative passive Kraft der Masse resultieren lässt". The writer notices Leibniz's inconsistency in designating the "primitive Kraft" by the term "materia prima," which must mean, not a "substance" but "the pure passive principle incomplete when abstracted from soul". Soul is identified with the *form* of body, which in turn is the matter of soul; and the argument is carried over to the lower organisms, which are shown to be also substantial forms. The theory of matter is the "middlepoint" of Leibniz's system, and not a "verworrenes" Anhängsel. Substance is a deduction from phenomenal appearance, and it is only when he tries to reverse the argument and to begin with self-contained, isolated substances that Leibniz must resort to a pre-established harmony.

XXXI.—*Das Verhältnis der Verstandeserkenntnis zur Sinnlichen in der Vorsokratischen Philosophie.* Von Dr. ERNST ARNDT. Halle-a-S.: Max Niemeyer, 1908. Pp. 57.

A single idea runs through this inquiry and marks the limits of the author's task. This idea is that the problem of knowledge up to the time of the sophists turns entirely upon its objective validity, and does not enter into the psychological or epistemological distinctions of knowledge as such. In defence of his thesis the writer argues, against Zeller, with some subtlety, that the words of Heraclitus, *κακοὶ μάρτυρες ἀνθρώποισιν ὀφθαλμοὶ καὶ ὄτα βαρβάρους ψυχὰς ἔχόντων*, do not imply an opposition of sense and thought but merely of a proper and improper use of the senses. "Schlechte Zeugen sind den Menschen Augen und Ohren, wenn sie Barbarensenlen haben." In Parmenides' system there are distinguished not two but three ways of knowledge, the *ἀληθὴς λόγος*, the *ψευδὴς λόγος* (the view of Heraclitus that not-being is) and the *βοτῶν δόξα*. It is only the second of these that flatly contradicts the way of truth, and that because of its inherent contradiction. There is no inner opposition between the *ἀληθὴς λόγος* and the "opinions of mortals". They are merely mutually irrelevant as two distinct (the separation is admitted to be sharp) *provinces* (Gebiete) of knowledge; and the account which Parmenides thinks it necessary to give of the *βοτῶν δόξα* (this is maintained to be genuinely *his*) shows that he recognised it as having a validity of its own. Demokritus' Atomism is viewed as resting not on an epistemological distinction of fixed rational knowledge and the relativism of sense, but as being a scientific hypothesis, falling entirely within the province of sense experience, and intended to mediate between the two ways of knowledge in Parmenides' system.

A. A. B.

Über die Erkennbarkeit der Gegenstände. Von HANS PICHLER. Wien u. Leipzig: Wilhelm Braumüller, 1909. Pp. 105.

The author connects his acute brochure with Meinong's inquiries, and works to a point of view which he finds practically identical with Wolff's theory of the *ratio sufficiens*. Combating the critical distinctions and the subjectivism of Kant, he bases the universality of knowledge (Erkenntnis) not on the priority of intellectual rules but on the already necessarily objective nature of truth; and the coherence of subject and predicate in universal judgments rests upon experimental adaptation and this in turn upon intuition. The subsumption of A under C where A is B and B, C, is "keine Denknotwendigkeit, sondern wesentliches Bedingtheitsein". Space and time are treated as neither ideas (Begriffe) nor intuitions but objects, and, further, as in no wise *sui generis*, but as systems, analogous to other systems, *e.g.* tone and colour, which share their systematic and dimensional characters. System is at the bottom of objective reality and the knowledge of this. "The condition of the possibility of systematic knowledge" lies in the "Seinsgrund des Individuellen," and such knowledge is "Ein Maximum an Erkenntnis bei einem Minimum an vorgegebener Kenntnis". "Given that nature is a system, that, taking the cosmic whole into consideration, there exists no mere contingency, then is scientific knowledge of nature possible, if not on geometrical, at least on systematic lines. Where nature then is not accessible to scientific apprehension (Erkenntnis), so as to give an answer to every question clearly put, the reason is that we fall short of the requisite minimum of Kenntnis" (pp. 86-87).

A. A. B.

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VII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xviii., No. 4. **A. O. Lovejoy.** 'The Meaning of *Φύσις* in the Greek Physiologists.' [Two interpretations have been given to the term *φύσις*, the 'process of becoming,' and the 'essential character of the primary substance'. No one of the *loci classici* demands the former meaning, while there are three considerations that support the latter: the sense ordinarily taken on by the word in literary usage, the express explanations of Plato, Aristotle and Theophrastus, and the employment of the dative with adverbial force, both by the later physiologists and by the Sophistic moralists, to point the contrast between the objectively valid and the subjectively apparent. Hence it may be concluded that the physiologists sought, not a formula of cosmic evolution, but a consistent conception of reality as it is 'in itself'.] **E. A. Singer.** 'Kant's First Antinomy.' [Kant is essentially correct; no possible experiment could decide the issue between a finite and an infinite distribution of bodies in space, a finite and an infinite world-history. The interest of the problem and its discussion centres in the definition of a fact; Kant seems to teach that it is of the nature of a fact to be unknowable, though unknowable only in the sense that an ideal is unattainable. All statements of fact must retain an expression for probable error, and must yield a definition of possible sources of constant error.] **G. A. de Laguna.** 'The Practical Character of Reality.' [Pragmatism has two distinctive doctrines: immediatism and instrumentalism. Immediatism, the pragmatist's substitute for ontology, declares that reality is what it is experienced-as. But it is impossible that universals be immediately experienced; it is impossible to reduce meaning to existence; and since we experience the real only as the outcome of the knowing-experience, it cannot be the real that is changed by the process of knowing. Instrumentalism, on the other hand, may be employed to reinterpret the definition of reality offered by absolute idealism; this may be considered as the description of an ideal limit, analogous to the fundamental formulæ of mathematics, with the same advantages and the same defects. Both immediatism and absolute idealism err in failing to see that a general definition of reality can be given only in functional terms.] **I. Husik.** 'Averroes on the Metaphysics of Aristotle.' [After a brief sketch of the works of Averroes, and a notice of the extant sources (in which the superiority of a Hebrew to a Latin translation from the Arabic is maintained), the author gives a running analysis of the contents of the compendium of Aristotle's *Metaphysics*. The study is based on the Arabic text of the Cairo edition, which became available two years ago, upon a copy of the Hebrew translation made from seven MSS. and upon the Latin translation (Venice, 1573). Averroes was the best Aristotelian expositor of his time, and is still to be regarded as one of the sources of mediæval philosophy.] **Reviews of Books. Notices of New Books. Summaries of Articles. Notes.**

PSYCHOLOGICAL REVIEW. Vol. xvi., No. 4. H. A. Carr. 'Visual Illusions of Depth.' [Illusions of depth are rarely mentioned in the literature. In a body of 350 college students, the writer found 58 persons who had, at some time of their lives, experienced such illusions; the present paper deals with 48 cases in which the illusions occurred only involuntarily. They are of four types: illusions of pure distance, of pure motion, of movement involving change of position, and of pure distance complicated by movement involving change of position. Their specific features, together with the objective and subjective conditions of appearance, are worked out in such detail as the memory of the observers allowed. In explanation, the writer lays the greatest stress upon binocular parallax; lenticular changes and changes of intensity of light play a considerable part; convergence is less effective, and the contraction of the visual field is of doubtful validity as a causal factor. He admits the possibility of other, objective and subjective conditions. The explanation in terms of binocular parallax implies that unitary vision may result from the stimulation of non-corresponding retinal areas, and that this unusual unitary combination involves an unusual localisation in the third dimension. Such an hypothesis is defensible; the author, however, rejects the current statement of it in motor terms, and substitutes for the motor theory two assumptions: that the position of monocular images along the line of sight is variable, and that certain of the determining conditions of this variability are central.] J. E. Downey. 'Muscle-Reading: a Method of Investigating Involuntary Movements and Mental Types.' [The writer, who is a skilled amateur mind-reader, undertook an experimental study of the subject with a view to the discrimination of mental types. After a brief review of the history of muscle-reading, she formulates three special problems, and reports the results obtained. (1) Does scepticism as to the outcome of the tests, or hostility towards the operator's claims, or knowledge of his *modus operandi*, serve to inhibit the involuntary movements of the guide? Success is often, and at times very easily achieved with sceptical guides, while failure (due to lack of concentrated attention) may occur even with highly suggestible guides. On the whole, the difficult guides are those who assume a critical attitude during the experiment. Wrong direction of attention, physiological dishonesty, may be as indicative as physiological candour. The whole subject is complicated by the extraordinary difficulty of bringing the involuntary movements to the focus of consciousness. (2) What relation obtains between the mode of mental control exercised by the guide, in his effort to concentrate attention and the success of the experiment? Guides with strong motor impulse indicate the direction of attention by motor initiative; this is retarded, though often made more precise, by concentration on the direction of movement. Guides with less strong motor impulse often weaken in attention during the test; a shift of attention to direction of movement then increases the impulse. Verbal control produces in general a freer and less accurate initiative than visual control. (3) How is success possible with distracted attention? The 'mental set' may reveal itself automatically even when attention is roving or is concentrated upon some foreign object. On the main issue, of mental types, the experiments revealed differences of impulsiveness, of volitional tendency, of bodily orientation, of perseverative tendencies, and of imagery.] Announcement.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xx., No. 3. H. Ellis. 'Sexual Education and Nakedness.' [After a brief review of the historical conceptions of nakedness, natural, sensual, conventional, the

paper sets forth the three possible influences of its cultivation at the present day. It is an important element in the sexual hygiene of the young, replacing pruriency by incurious knowledge; its effect on the adult is to cultivate the sense of beauty; and the custom of nakedness, at least in its inception, affects morals by substituting positive and dynamic psychological factors for timidity and a merely negative attitude.] **C. Guillet.** 'Retentiveness in Child and Adult.' [Comparison of memorisation and retentiveness in a two-and-a-half years old child (coloured pictures, English, French and German names) and an adult (pictures and Japanese names). The adult has the advantage. Thus, in learning lists of some 50 names of animals, the child added 2'33, the adult 4'35 at each repetition to his store of memorised words; the child retained 33 per cent. and the adult 71 per cent. after a six weeks' interval; after the same interval, when both retained about one-third of the total number, the adult relearned in one-third of the number of repetitions required by the child. It appears that the adult, from power of attention and wider linguistic experience, should learn a foreign language faster and remember it better than the child. Other tentative conclusions, pedagogical and psychological, are drawn from the results.] **F. L. Wells.** 'Sex Differences in the Tapping Test; an Interpretation.' [No difference appears in absolute rate of tapping, in gross fatigue loss during the 30 sec. period, or in the form of the curve of this loss. Differences appear, however, in those features of the experiment in which the affective factor is involved. Thus, women surpass men in the parts of the work subject to special *Antriebe*; they report with greater objective accuracy their sensations of fatigue; they show a tendency to relatively increasing variability under fatigue, etc. The differences are thus not fundamentally sexual, but are secondary to certain differences in temperament.] **E. L. Thorndike.** 'The Relation of Accuracy in Sensory Discrimination to General Intelligence.' [Spearman found an approximately absolute correlation between general discrimination and general intelligence. In the present experiments, the correlation between whatever is common to drawing lines accurately and to equating weights and whatever is common to intellect as judged by fellow-students and intellect as judged by teachers is not 1.00, but 0.26 or 0.15, according to the Spearman formula used; the most probable relation between the factor common to all sensory discriminations and the factor common to intellect judged by students and teachers' estimates and by school marks is but 0.23. It appears that, with young children, a test designed to measure discrimination may in reality measure ability to understand instructions.] **J. H. Leuba.** 'An Apparatus for the Study of Kinesthetic Space Perception.' [Figure and description of apparatus for arc movements, i.e., movements involving but one joint and the muscles operating it.] **J. H. Leuba and E. Chamberlain.** 'The Influence of the Duration and of the Rate of Arm Movements upon the Judgment of their Length.' [If the sense of position is excluded, the relative length of arc movements is judged by comparison of the duration of sensations (preferably articular) arising from movement and a particular value (rate value) of the articular sensations; a quasi-automatic compensatory relation exists between duration and rate value. The results do not necessitate the hypothesis of local signs in articular sensation.] **E. Murray.** 'Organic Sensation.' [After outlining the primary problems of a psychology of organic sensation (the possibility of reliable observation, the existence of any organic sensation other than pain, the question of plurality of qualities), the author reviews in detail the anatomical and histological, the physiological, and the clinical and pathological evidence in the case. She then reports experiments on organic attitudes, rever-

berations and concomitant sensations; on the direct effects of external and internal stimulation; on the terms 'sharp' and 'dull'; and on indiffernt pains. The differentiation of external and internal sensation, and the conditions of reference, turn out to be more complex than is usually thought; many internally referred sensations arise from the excitation of cutaneous nerves. The texture or massing of sensation is as important in the production of apparent qualitative difference as is the elemental quality itself; internal may thus differ from external sensations rather texturally than qualitatively (*cf.* tickle and pressure). That the pain continuum begins indifferently is of great importance for a psychology of organic sensation at large.] Notes from the Psychological Laboratory of Vassar College. **K. B. Rose.** 'I. Some Statistics of Synæsthesia.' [Of 250 college students, 9 per cent. showed colour and 12 per cent. form associations of various kinds.] **M. F. Washburn.** 'II. An Instance of the Effect of Verbal Suggestion on Tactual Space Perception.' [Striking effect of suggestive instruction in æsthesiometrical work.] **A. M. Batty.** 'Some Observations upon Practice and Fatigue as they Affect the Rate of Tapping.' [With five sec. trials, rest periods of 5, 10 and 20 sec. are favourable to practice-gain in that order, though favourable to work in the inverse order. Practice-gain thus proceeds in proportion to fatigue; one must work to the maximum in order to gain the most profit by practice.] Psychological Literature, Notes.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. vi., 12. **F. C. Doan.** 'The Cosmic Character.' [Continues article in vi., 3, postulating a 'cosmic sanity' which controls the development of the subconscious first cause to the 'personal animal' whom religious experience demands.] **D. Fisher.** 'Common Sense and Attitudes.' [On the common-sense level all can agree, but beyond it lies the region where philosophers disagree, that of ineffable personal attitudes.]—vi., 13. **Y. R. Dodson.** 'An Interpretation of the St. Louis Philosophical Movement.' [H. C. Brockmeyer, W. T. Harris, T. Davidson, G. H. Howison, etc. Suggests that the success of these men was due to the fact that their philosophy impelled them to make the necessary compromises with politicians, etc.] **J. W. Hudson.** 'Hegel's Conception of an Introduction to Philosophy.' [In view of the danger that philosophy may be becoming popular desiderates an introduction on the lines of the *Phenomenology of Spirit*.] **E. H. Rowland.** 'A Case of Visual Sensations during Sleep.' [By a lady who sleeps with her eyes open and consequently peoples her bedroom with dream images which it is hard to discriminate from realities.]—vi., 14. **A. E. Davies.** 'Education and Philosophy.' [Thinks that American philosophers have neglected the study of logic.] **J. E. Russell.** 'Why not Pluralism?' [Criticism of A. E. Taylor's argument against pluralism, concluding that pluralism remains a theoretically admissible doctrine.] **A. W. Moore.** 'Pragmatism and Solipsism.' [Replies to the charge of solipsism brought in Pratt's *What is Pragmatism?* Pragmatism has, it would seem prematurely, taken it for granted that consciousness is "born of a thoroughly social, objective world" and thinks of it as "always a function of the whole social situation".]—vi., 15. **W. T. Bush.** 'Knowledge and Perception.' [Even though "metaphysicians have not yet ceased to imagine a reality in which the calm of self-identity leaves no place for the genesis of consequences," "knowledge of nature is skill in reading the signs of nature, and a point of view which is unable to treat immediacy as the sign of causality can provide no basis for a theory of knowledge".] **G. M. Fernald.** 'The Phenomena of Peripheral Vision as Affected by Chromatic and Achromatic Adaptation.' [Reply to Titchener's criticism of a 'paradoxical after-image' in the

author's experiments.] Ninth Meeting of the Western Philosophical Association. In a review of G. L. Dickinson's *Is Immortality Desirable?* Prof. Santayana gives his reasons for answering *No.*—vi., 16. **T. L. Bolton.** 'On the Efficacy of Consciousness.' [Infers from psychological introspection that "the chief characteristic of mind" is "the power to represent things that are not present and to act upon them just as if they were". For thus animals "may learn to act with perfect automatism upon things in their absence" so that when needed "the appropriate act is there". This function has great survival value.] **J. Dewey.** 'The Dilemma of the Intellectualist Theory of Truth.' Argues that the intellectualist is usually "an anarchistic subjectivist," because he makes truth "a self-contained property of ideas" and so only an internal property of an idea *qua* idea.] **A. Schinz.** 'Reply to Prof. Moore's Criticism of "Antipragmatism".' [Cf. vi., 11.]

THE SOCIOLOGICAL REVIEW. Vol. ii., No. 3, July, 1909. **Gilbert Murray.** 'Wherewith shall it be salted? A University Address.' [Intellect that is not in bondage, whether to the rich or whatever it may be, is the great hope of the world. The importance in this connexion of the new universities. Consideration of the questions these emancipated intellectuals must face, having a view solely to the public interest.] 'Discussions: 'A Proposed Sociological Record.' **F. Carrel** and **Prof. Geddes.** 'The Present Position of Positivism.' **S. H. Swinny.** Notes, Reviews, etc.

REVUE NÉO-SCOLASTIQUE. Août, 1909. **C. Piat.** 'Sanctions.' [Hopelessness of Determinism as exclusive of the sanctions of a world to come. How the neglect of such sanctions is working in France.] **H. Hoffmans.** 'Roger Bacon: Mystic Intuition and Science.' [Bacon's assertion that the Active Intellect is distinct from the human mind, and is primarily God, secondarily the Angels. How he differs from Averroes.] **C. Alibert.** 'Psychological Reading of Saints' Lives.' [What elements of soul are strengthened by sanctity, and what weakened.] **J. Halleux.** 'Critique of M. Guibert's *Les croyances religieuses et les sciences naturelles*.' [Does the degradation of energy show that Nature must have had a beginning and will have an end? Does the origin of life postulate a Creator? Is Evolution incompetent to issue in an animal body fit to be informed by a rational soul?]

REVUE DE PHILOSOPHIE. 1^{er} Juillet, 1909. **F. Blanche.** 'The Notion of Truth in Pragmatism.' ["Is it not possible that the verification may gradually make the primitive relation pass to a new state? If that is so, truth will certainly be a phenomenon, and the pragmatist will be right. Let us look into this point closely." A negative answer is arrived at.] **Domet de Vorges.** 'From Kant to St. Thomas.' [Argues that the attempt made by M. Fonsegrive in this Review to reconcile the two is a failure.] **G. Sortais.** 'Nature of Inductive Syllogism.' ["In the employment of the inductive method the passage from particular to general is anterior to the experiment set on foot. Before the physicist succeeds in establishing a true causal relation, he has to multiply his operations. But as soon as a true causal relation has been duly verified, it is instinctively extended to all possible cases of the same sort."] **A. Wessels.** 'Free Will and the Phenomena of Automatism.' [Hypnotism an abnormal state in which the conditions of free will are absent.] **M. Baelen.** 'The Monist Mechanism of Taine.' **C. Berthet.** Review of Mgr. Le Roy, *La Religion des Primitifs*, Beauchesne, Paris. [The observations of a

missionary bishop, twenty years in Africa.]—1^{er} Août, 1909. **N. Vaschide** and **R. Meunier**. 'Theories of Attention.' ["Attention is not an artificial phenomenon, but the most universal of the functions of our mental life. It is essentially dynamical; it is to intelligence what reflex irritability is to the nervous system. It is not a state, it is an act."] **R. Saleilles**. 'The Origin of Right and Duty.' [An admirable Address, exposes the subjectivist view of Rousseau, the historical of Savigny and Ihering, and the positivist. "Where there is no longer any subjective right, there is no longer any right at all. If I can no longer say *my right*, if I must say *I have a function which society imposes on me, and which depends solely on the tyranny of social evolution*, I am then nothing more than an atom of that devouring organism for which I live and for which I labour, society. I am no longer an individual, no longer a person. There may be rights in the world, but there is no right left for the individual."] **P. Duhem**. 'When did Latin Scholasticism come to know the Physics of Aristotle?' ["Before the thirteenth century the Physics and Metaphysics of Aristotle were little known to the Latins, though it would be rash to conclude that they were totally unknown."] **J. Louis**. 'Matter, Understanding, and Reason in the Philosophy of Schopenhauer.' **L. Couturat**, etc.

REVUE DE METAPHYSIQUE ET DE MORALE. No. 3, Mai, 1909. **L. Brunschvicg**. 'Une phase du développement de la pensée mathématique.' [Human thought approached the calculus along various paths. Consideration of the importance of the work of Archimedes, Cavalieri, Pascal and Leibniz, Newton, etc. No philosophical doctrine born of the calculus, although there are traces of such in the system of Leibniz. The close connexion of technical discovery and critical reflexion shows that history must arbitrate if there is to be a durable alliance between science and philosophy.] **E. Goblot**. 'Sur le syllogisme de la première figure.' [To prove that the Major Premiss is the expression of a constant relation.] Correspondence inédite de Ch. Renouvier et de Ch. Secrétan (*Suite*). **H. Berthelot**. 'Sur le pragmatisme de Nietzsche' (*Suite*). Études Critiques, Questions Pratiques, etc.—No. 4, Juillet, 1909. **H. Poincaré**. 'La logique de l'infini.' [An interesting and important article, critical of M. Zermelo, and, in a less degree, of Mr. Russell, who "has a better understanding of the difficulties to overcome". Mr. Poincaré himself adheres to the following rules: (1) Ne jamais envisager que des objets susceptibles d'être définis en un nombre fini de mots; (2) Ne jamais perdre de vue que toute proposition sur l'infini doit être la traduction, l'énoncé abrégé de propositions sur le fini; (3) Éviter les classifications et les définitions non-prédicatives.] **L. Dauriac**. 'Les sources néocriticistes de la dialectique synthétique dans: l'Essai sur les Éléments principaux de la Représentation.' [Indebtedness of Hamelin to Renouvier.] Correspondence inédite de Ch. Renouvier et de Ch. Secrétan (*Suite*). Études Critiques. Discussions: 'A propos d'Auguste Sabatier,' **H. Monnier**. Questions Pratiques, etc., etc.

ARCHIVES DE PSYCHOLOGIE. Tome viii., No. 3. **La Direction des Archives**. 'Charles Darwin.' [General tribute to the work, biological and psychological, and to the character of Darwin.] **A. Lemaitre**. 'Contribution à la psychologie de l'adolescent.—I. Le parapsychisme scolaire.—II. Nocuité ou utilité de la division de conscience.—III. L'évolution mentale d'un dégénéré supérieur.' [The first part of the paper describes eight cases of parapsychism, a term coined by the author for a certain type of psychasthenia. The developmental process begins with a latent physical crisis; then follows the parapsychical stage, result-

ing from an almost unconscious psychical crisis; and this again is succeeded by a conscious crisis, physical (tuberculosis, etc.) or mental (instability). In the second part, it is argued that a division of consciousness may, in certain cases, be advantageous, as preserving the individual against a greater evil. The third part sketches the history of a higher degenerate, with reference to Nordau's stigmata (mania of persecution, mania of philanthropy, megalomania, mysticism, erotomania).] **E. Yung.** 'Contribution à l'étude de la suggestibilité à l'état de veille.' [Experiments with objects viewed by the microscope, and with 'magnetised' cards and coins. Young students are easily brought to see diatoms, by suggestion, in an empty field; more practised observers are less suggestible, though they may be led to see structural details that are not present. Muscular, tactual, olfactory, visual and auditory hallucinations are easily produced, by suitable suggestion, in normal adults (83·8 per cent. of a total of 420, 69 per cent. of a total of 120).] *Bibliographie.* Notes diverses.—Tome viii., No. 4. **E. Claparède** et **W. Baade.** 'Recherches expérimentales sur quelques processus psychiques simples dans un cas d'hypnose.' [A detailed study of certain mental processes, in the waking and hypnotic states, made for the most part upon a 'mediumistic' subject, a woman of forty-two. The paper opens with a description of the various stages of hypnosis (six in number) evidenced by the subject. Experiments are then described upon reaction, simple and compound, upon memory, upon association of ideas, and upon addition. A concluding section briefly reviews the principal theories of the hypnotic state, and discusses the experimental results in the light of these theories. The time of simple reaction is not modified by hypnosis in the case of the chief observer, though it is increased in that of another observer; the discrimination and association times are lengthened, the choice times slightly reduced. The memory experiments show clearly that the psychophysical basis of memory is identical in the two states; posthypnotic amnesia is an amnesia not of retention but of reproduction. The association experiments show that, while associative inhibition may be favoured by hypnosis, it does not constitute hypnosis; the ideational constellation is practically identical in the two states; hypnosis is not a reduction of the extent of the mental field. The essential characteristic of hypnosis appears to be a suspension of the function of initiative. The paper is written in a moderate and tentative way, and raises many questions (*e.g.*, that of suggestibility) which it does not attempt dogmatically to answer.] *Recueil de Faits: Documents et Discussions.* **A. Lemaitre.** 'Paramnésie négative et paramnésie renversée.' [Case of negative paramnesia of articulation; the subject (a boy of fifteen) thinks that he has asked a question when in reality he has not spoken. Discussion of a case of paramnesia with reversal (already published) in the light of Janet's case of reversal of orientation or allochiria of ideas.] *Bibliographie.* *Nécrologie.* [Ernest Naville, Henri Zbinden.] Notes diverses.

ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd. li., Heft 3 und 4. **H. Haenal.** 'Die Gestalt des Himmels und Vergrößerung der Gestirne am Horizont; ein Versuch zur Lösung eines alten Problems.' [The author reviews the existing theories, and shows that observational data and explanations are alike at variance. The question of the apparent size of the moon on the horizon is, without doubt, closely connected with that of the apparent form of the heavens. But the heavens consist, visually, of two parts: a vertical ring of varying height at the horizon, which is seen (like the terrestrial horizon) at a determinate distance; and a formless area, above this ring, which (like the field of the closed eyes) is seen merely as a colour of essentially indeterminate distance. Hence on the

horizon the heavenly bodies appear also at a kinaesthetically finite distance, while at the zenith they are, kinaesthetically, infinitely remote. In other words, their perception on the horizon depends both on visual magnitude and on distance, at the zenith on visual magnitude only. The moon on the horizon is seen in perspective; not as a terrestrial object, but under the same laws of vision as the terrestrial objects at that finite distance; it therefore appears large. When we look to the zenith, we unconsciously change our standard; the moon occupies a fractional part of the total field, and is therefore seen in its normal or actual smallness. This view enables us to understand the discrepancies in the recorded observations.] **R. F. Pozdena.** 'Eine Methode zur experimentellen und konstruktiven Bestimmung der Form des Firmaments.' [In sharp contrast to the author of the preceding paper, the writer thinks it possible, by a combination of observation with logical inferences leading to the formulation of a mathematical problem, to obtain determinants which shall enable him to draw a smooth curve, solely by the aid of mathematics or of geometrical construction, whose rotation about a vertical axis shall give the apparent form of the heavens for any special case. His initial assumptions are only that the diameter of the moon on the horizon is larger than that at the zenith; and that the straight line from observer to horizon is longer than that from observer to zenith. He describes an apparatus for the determination of the apparent magnitudes of the moon at different heights in the sky, and illustrates, by reference to his own observations, the simplest mode of mathematical treatment of the data.] **K. Groos.** 'Untersuchungen über den Aufbau der Systeme, II.' [The paper cites a number of instances of antithesis; a psychological discussion is promised for a later paper. In the pre-Socratic period, we find a dualistic treatment of becoming, being and knowing. Antithesis is, however, most marked at the great turning-points of philosophy: in Plato (being and knowing), Descartes (physical and psychical) and Kant (sensibility and understanding, world of experience and thing-in-itself.)] **P. Kohnstamm.** 'Parallelismus und Wechselwirkung vom Standpunkte der mathematischen Physik.' [Mathematical analysis of the theory of interaction shows that it leads of necessity to one or other of the following three consequences. (1) We must believe that not all movements in nature are subject to law (indeterminism). (2) Or we must believe that the psychical is at every moment univocally determined by the physical, whereas the physical runs its course as if the psychical did not exist. (3) Or finally we must believe that the psychical knows no more than the physical of a beginning and an end. Whether any one of these beliefs is correct can be decided only in the light of a much more extended factual knowledge than we now possess.] *Besprechung.* [K. Bühler on J. van Ginneken, *Principes de linguistique psychologique.*] *Literaturbericht.*

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. cxxxv., Heft 1, 1909. **Kristian B. R. Aars.** 'Pragmatismus und Empirismus.' [A deplorable uncertainty still prevails as to what Pragmatism really means. Is it a new estimate of the value of knowledge (and religion), or does it involve a new interpretation of truth itself, reducing true belief to something that conduces to life? Rationalism and commonsense must alike reject the theory implied by the second of these definitions. But there seems to be a general agreement that truth is useful. And this implies an utter rejection of the psycho-physical parallelism once so much in vogue. For mind could not act on matter if it were a mere epiphenomenon. Throughout this article the American and English Pragmatists are curiously ignored, all the references being to German, French and Italian writers.] **Richard Kroner.** 'Über logische

und ästhetische Allgemeingültigkeit.' [Continuing the investigation begun in the preceding number, Kroner, who writes as a follower of Prof. Rickert, gives us a searching criticism of Kant's epistemology. In the *Critique of Pure Reason* absolute universality is exhibited as the criterion of necessary or objective truth. Now there are two senses in which universality may be understood. A judgment may be valid for all knowing subjects without collecting the votes, or it may be valid for all the objects known without collecting the cases. Kant never properly discriminated between them and was led into various inconsistencies and difficulties by his confusion of thought. Kroner for his part holds that the question, How are synthetic judgments *a priori* possible? has been settled by Rickert's idea of introducing something very like a feeling of moral obligation into logic.] **W. Kinkel.** 'I. Bericht über Erscheinungen aus dem Gebiete der Ethik und Religionsphilosophie.' [Among several works passed in review the most complete approval seems given to *Il Problema del Bene* by Camillo Trivero.] Rezensionen, etc.—Bd. cxxxv., Heft 2, 1909. **H. Aschkenasy.** 'Voluntaristische Versuche in der Religionspsychologie.' [Deals with the psychological explanations of religion put forward by Nietzsche and Ebbinghaus. In his youthful work on the Origin of Tragedy Nietzsche interpreted the gods of Hellas as illusions created by the will to free itself from the anguish of life. In his later period, after discarding pessimism, he explained asceticism as the will for power turned back on itself in default of an opportunity for exercising itself on others. To Ebbinghaus on the other hand religion is a refuge from the impenetrable darkness of the future and the irresistible superiority of hostile powers. But this, as Aschkenasy observes, is not applicable to the higher forms of religion. And more generally, it betrays an inadequate conception of religion to treat it as a mere adaptation to vital needs, ignoring the metaphysical side of its doctrines.] **Karl Neuhaus.** 'Humes Lehre von den Principien der Ethik.' [Hume's theory of causation breaks down when it is used to explain the mechanism of mind. Motivation is not concerned with the ultimate ends of action but with the means for attaining them. Not pleasurable feelings but objective ideals form the moral end. And reason does not, as Hume holds, stand neutral in the conflict of passions but declares some feelings to be more rational than others.] **Meta Jörges.** 'Geschlecht und Character.' [Otto Weiniger's brutally contemptuous estimate of women is inconsistent with his own philosophy of sex, according to which the male and female characteristics are never exhibited in their ideal purity.] **Richard Kroner.** 'Über logische und ästhetische Allgemeingültigkeit (Schluss).' [The writer continues to develop his own views under the form of a polemic against Kant, whose *Kritik der Urteilkraft* is here subjected to a searching examination. The telological portions of that treatise in particular are shown to throw no light on the æsthetic problem. And the criterion of universality, already ousted from logical obligation, seems to have even less relevance as a note of æsthetic judgments, these being essentially individual, though recognised as binding on others besides the judge. But while general rules may be laid down *a priori* for determining the conditions of knowledge, no such rules are possible in the world of beauty. 'Here the question must in each instance be decided by artistic genius.'] Rezensionen, etc.—Bd. cxxxvi., Heft 1, 1909. **Arthur Liebert.** 'Der Anthropomorphismus der Wissenschaft.' [It is the boast of modern science to construct a complete and disinterested view of reality without any admixture of human elements. But the philosophy of cognition goes to dispel this conceit. The development from Protagoras and Democritus to Locke and Kant proves how much of what we call knowledge is due to the

knowing subject. Nor is the subjective element, as Kant thought, merely formal: it helps to constitute the matter of knowledge also. Nevertheless what we know is, in a sense, real, and its reality is assumed in every epistemological argument—an antinomy which Liebert does not seem to clear up.] **Otto Meyerhoff.** 'Erkenntnistheorie und Vernunftkritik.' [The object of this writer has been, in association with Leonard Nelson, to revive the philosophy of Fries. His present purpose is to defend the original method of Fries as well as its recent developments against the criticisms of Cassirer.] **Georg Mehlis.** 'Über Kants Urteilssystematik.' [Mehlis seems to be, like Kroner, a disciple of Rickert, and his paper may be looked on as a contribution to the general revolt against Kant's criticism, while his concluding observations on Kant's neglect of the category of Quality and the important place given to it by Hegel, taken in company with other indications, point towards a revival of Hegelianism in Germany.] Rezensionen, etc.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Band xv., Heft 3. **G. Seliber.** 'Der Pragmatismus und seine Gegner auf den iii. Internationalen Kongress für Philosophie.' [The philosophy of Bergson gives a deeper analysis than Pragmatism, and does not attempt to elucidate epistemological problems by means of metaphysical speculations.] **Richard Müller-Freienfels.** 'Das Urteil in der Kunst.' [Careful discussion of Judgment as a factor in æsthetic enjoyment, its biological significance, its objectivity, the force of originality as a principle of value, the possibility of a normative Æsthetic, etc.] **Martin Meyer.** 'Wahrheit.' **Otto Neurath.** 'Eindeutigkeit und Kommutativität des logischen Produktes *a b*.' **Olga Hahn.** 'Zur Axiomatik des logischen Gebietkalküls.' **Otto Braun.** 'Rudolf Euckens Methode.' [Eucken investigates the activity of man as a creator of culture seeking to pierce to world principles beneath the psychical forces conditioning his activity.] **Paul C. Franze.** 'Eine entwicklungs-theoretische Betrachtung über das Verhältnis von Wissen und Glauben.' [Modern man shows his high development by insisting on a higher degree of evidence than used to satisfy in Philosophy and Religion.] **B. Lemcke.** 'De Potentia.' [Investigates the relation of force and cause.] **Kurt Geissler.** 'Wer darf in philosophischen Fragen urteilen?' [Rather tells us who ought not.] **H. Aschkenasy.** 'Zur Kritik des Relativismus in der Erkenntnistheorie.' **Georg Wendel.** 'Das Problem der Kausalität und der Freiheit.' Neueste Erscheinungen, etc.

ARCHIV FÜR DIE GESAMTE PSYCHOLOGIE. Bd. xiv., Heft 3 und 4. **W. Wirth.** 'Die Probleme der Psychologischen Studien von Theodor Lipps.' [A detailed comparison of the two editions, 1885 and 1903, of Lipps' *Psychologische Studien*, with critical and constructive comment. (1) On psychical magnitudes, their absolute and relative estimation, and Weber's Law for differential limens. Discusses Lipps' change from the psychophysical to the psychological interpretation of Weber's Law; his doctrine of impression; his relations to Fechner and Wundt; his appeal to unconscious psychical processes. Emphasises the difference between the significance of Weber's Law for the discovery of relatively equal distances and its significance for the differential limens. (2) The theory of unconscious tonal rhythms. An estimate of Lipps' theory, mainly in the light of Krueger's results with difference-tones. (3) The genetic explanation of visual space-perception, with especial reference to the theory of adaptation. Critique of Lipps' view, written mainly from the Wundtian standpoint.] **E. Meumann.** 'Weiteres zur Frage der Sensibilität der inneren Organe und der Bedeutung der Organempfindungen, i.' [Ac-

count of Becher's experiments, with running commentary. The author finds evidence for the sensitivity of stomach, intestine, heart and lungs; he relies upon his own introspections, upon the reported pathological cases, upon recent physiological observations, and upon a reinterpretation of the counter-evidence from surgery (spread of anæsthetic in Lennander's work).] **E. Trebs.** 'Die Harmonie der Vokale.' [Discusses those reduplicated forms (the writer terms them 'variations') in which there is shift of a vowel (as in tick-tock) or a consonant (as in helter-skelter). A table gives all types of variation, known to the author, in sixty-one languages, with the exception of consonantal variations in the Romance languages; the range is wide, but the sequences *u-a*, *a-u*, *i-a*, *a-i* are common, and the sequences *o-a*, *a-o*, *e-a*, *a-e* stand next in order of frequency. The vowels *u*, *o*, *e*, *y*, *i* in the principal word usually induce *a* in the secondary; *a* usually induces *i* or *u*. The variations apparently take shape under the most diverse conditions; but their development is based upon the musical principle of the octave-ratio of the resonance tones. This conclusion implies the correctness of Pipping's overtone determinations.] **P. Mueller.** 'Einige Beobachtungen über die sekundäre Erregung nach kurzer Reizung des Sehorgans.' [Survey of previous work and new observations. The dark streaks appear in the ghost, as well as in the primary image, and in both cases broaden towards the periphery; they are clearer and more numerous, the greater the rapidity and intensity of the stimulus. The appearance and time of entry of the ghost depend upon the intensity and duration of the stimulus and upon adaptation; its intensity is strictly correlated with the duration of the stimulus. The dark interval between primary and secondary images is longer in indirect than in direct observation, and decreases with increase of dark-adaptation. Complementary colours may appear in the primary image whatever form of stimulation is used (McDougall's slit, slit with graduated brightness, triangular aperture). White, red, green, blue, orange-yellow and violet lights were used; red gives, as second excitation, an image that in many respects resembles the ghost.] **M. Ponzo.** 'Über die Wirkung des Stovains auf die Organe des Geschmacks, der Hautempfindungen, des Geruchs und des Gehörs, nebst einigen weiteren Beobachtungen über die Wirkung des Kokains, des Alipins und der Karbolsäure in Gebiete der Empfindungen.' [Deals chiefly with the effects of stovaine (dimethylaminobenzoylpentanol hydrochloride). The peripheral effect of this substance upon taste is a local anæsthesia for salt and bitter (common salt and sulphate of quinine), its central effect is a hyperæsthesia apparently for salt only; the central effect of cocaine, on the contrary, is a hyperæsthesia for bitter and sweet (cane sugar). It seems, therefore, that the influence of the anæsthetics upon the nerve-centres is selective, and that there are separate brain-areas for the different sensory qualities. In the sphere of touch, stovaine produces, as peripheral effect, a local anæsthesia for pressure, pain and cold; centrally, it appears to render the pressure sense hyperæsthetic; whether it affects, from the centre, the pain and temperature senses is still to be determined. In smell, its peripheral effect is local anæsthesia for rubber and other odours; its central effect is hyperosmia. Finally, by action on the centre it heightens auditory acuity.] **T. Flournoy** and others. 'Vime Congrès int. de Psychologie, Genève, 3-7 août 1909. Circulaire No. 2 (février 1909).' Literaturbericht. **E. Hirt.** 'Psychologisches in der psychiatrischen Literatur der letzten Jahre.' 'Einzelbesprechungen. [Wentscher on Meumann's *Intelligenz und Wille*; Landmann-Kalischer on Lipps' *Asthetik*, ii.] Referate.

VIII.—NOTES.

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NOTE.

J'ai lu avec un haussement d'épaules les deux pages que M. C. C. J. Webb consacre, dans la dernière livraison du *Mind* (pp. 615-617) à un de mes ouvrages, traduit du français : *Scholasticism old and new*. Cette critique, dont le premier tiers est un hors d'œuvre, est le fait d'un *impressionniste*, pour qui les insinuations et les épithètes remplacent les arguments. — Penser donc ! Dans un ouvrage de caractère aussi général, M. Webb me reproche de ne pas donner l'étymologie du mot *Meta-*

physics.—Tout y *semble* (*seems*) de seconde main ! Il conclut même—ce qui est plaisant—à l'infériorité de mon enseignement *oral*.—Et puis, continue-t-il, faut-il de la lourdeur d'idées (*slowness*), pour voir dans la philosophie scolastique "une synthèse commune à un groupe de docteurs occidentaux". Le compliment me met en bonne compagnie, puisque il s'adresse aussi au P. Ehrle de Rome et à Baeumker de Strasbourg.

Puis, voici qui est amusant : je n'ai pas compris la notion de scolastique, adopté par M. Picavet.—Celui-ci en rira autant que moi, puisqu'en maintes circonstances nous avons discuté la notion de la scolastique, mais en fournissant de part et d'autre . . . des raisons. M. Webb ignore-t-il cet échange de vues, poursuivi dans des revues et dans des livres ? Ou peut-être ne nous a-t-il pas compris ni l'un ni l'autre ? En ce cas, il retarde. Il retarde aussi, quand il se réfère au jugement (?) qu'il porta, il y a *dic* ans, sur un autre de mes ouvrages : *Histoire de la Philosophie médiévale* (1900), car depuis lors deux autres éditions ont paru de cet ouvrage : en 1905 à Paris (*Mind*, 1905, p. 558 et 559), en 1909 à Londres.

Il m'a semblé utile de signaler aux lecteurs pareils procédés de critique.

MAURICE DE WULF.

BRUXELLES, 14 *Décembre* 1909.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY



I.—ON APPEARANCE, ERROR AND CONTRADICTION.¹

BY F. H. BRADLEY.

IN the following pages I am to offer some remarks on the subject of Appearance, Contradiction and Error. I have probably nothing to say here which I have not said before, and there is nothing, I imagine, in what I have said which could be called original. I however offer these remarks because they seem to me to be wanted, because, that is, the general view which I have adopted seems still partly misunderstood. I am not seeking here to argue with any one who wishes to criticise rather than to understand. I address myself to those whose interest in these topics is impersonal, to those who desire to make their own every way, however imperfect, in which these matters are apprehended.

I propose here first to say something as to the general foundation on which I stand. I shall next deal briefly with the relation of Error to Appearance. From this I shall go on to discuss at length what may be called the relative and absolute views of Error. I shall then examine a difficulty with regard to Contradiction, and shall finally remark on the general reality of Appearance and Degree. The reader who finds here too much repetition of what to him is familiar, will, I hope, accept the explanation which has been offered above.

¹ This paper, with the exception of some small additions and of the Supplementary Note, was written rather more than a year ago. There are some questions as to the nature of Truth with which I hope to deal in a later article.

The way of taking the world which I have found most tenable is to regard it as a single Experience, superior to relations and containing in the fullest sense everything which is. Whether there is any particular detail in this whole which falls outside of any finite centre of feeling, I cannot certainly decide; but to me the contrary seems more probable. We have then the Absolute Reality appearing in and to finite centres and uniting them in one experience. We can, I think, understand more or less what, in order for this to be done, such an experience must be. But to comprehend it otherwise is beyond us and even beyond all intelligence. The immanence of the Absolute in finite centres, and of finite centres in the Absolute, I have always set down as inexplicable. Those for whom philosophy has to explain everything need therefore not trouble themselves with my views. Whether on the other hand the doctrine which I hold is intelligible and thinkable, depends, I should say, on the meaning which you like to give to these ambiguous terms. To myself this doctrine appears at least to have a positive meaning and sense which I am able clearly to apprehend. And in the main I inherited this doctrine from others, and find myself sharing it with others to whom it seemed and seems intelligible. But in what follows I should add that I of course am speaking only for myself.

No one, I think, will understand such a view if he makes a mistake as to the given fact from which in a sense it starts. There are those for whom the outer world is one given fact, and again the world of my self another fact; and there are others for whom only one of these two facts is ultimate. It is in philosophy a common doctrine that there is immediate certainty only on the side of my self, a basis from which I should have thought that Solipsism must demonstrably follow. If you start from the absolute reality of your self, you need not puzzle yourself as to how you are to leave this ground and leap to a transcendent Reality. You may, I think, wait till you have shown how knowledge of anything at all beyond the limits of your own self is anything more than an illusion. But in truth neither the world nor the self is an ultimately given fact. On the contrary each alike is a construction and a more or less one-sided abstraction. There is even experience in feeling where self and not-self are not yet present and opposed;¹ and again every state where there is an experience of the relation of not-self to self, is above that relation. It is a whole of feeling which contains these elements, and this

¹ See MIND, No. 69, p. 51.

felt containing whole belongs to neither by itself. "Subject and object," you say perhaps, "are correlated in experience;" and, I presume, you would agree that we have here one experience which includes the correlation. But are we to say that this experience itself is a mere correlation? Such a doctrine to myself seems untenable and it seems contrary to the given fact. The given fact to me is a single whole of feeling within which the above distinction and division holds. This totality is the property of neither side, but it contains and is superior to each. And to emigrate somewhere beyond such a whole as this seems clearly impossible. In short on our view we may go on to say that the Absolute Reality is in a sense the given fact, and that to leap to it from fact by transcendence is unmeaning. Within the Absolute you transcend the lower and partial forms in which it appears, in order to reach those which are truer. But as for transcending the Absolute to gain my finite centre, or my finite centre to gain the Absolute—everything of such a kind to me is mere nonsense. These ideas start by supposing that to be true which we think most false, and by assuming that to be given which for us is the one-sided product of a vicious abstraction.

From the first, if we are to speak of transcendence, my finite centre is transcended. From the first and throughout it is one thing directly with the all-embracing Universe, and through the Universe it is indirectly one thing in varying degrees with all other centres.¹ Nothing in the end therefore is simply private; the most intimate feeling and the simplest experience of a pleasure or pain is experienced by the whole Universe. The idea of some inner recess or sunken depth from which the one Reality is or can be shut out, is the mere creature of false theory. It is a perversion of the truth, an important truth, that each centre has an experience which is never directly one with that of other centres.

Certainly I speak of my finite centre, and with this an emphasis may be laid on the "my," and, with this, the road that leads to Solipsism once more seems opened. But it is forgotten here that my self, the self that I take as a thing which endures in time and which I go on to oppose to the world, is an ideal construction. It is a construction which is made on and from the present feeling of a finite centre. The work of construction is performed by that centre and by the Universe in one, and the result depends for its origin and existence wholly on this active unity. From the other side we naturally speak of the feeling centre from which my self

¹ I cannot accept the view that my self in relation with other selves is a fact immediately given.

is developed, and with which it remains throughout continuous, as "its". And this expression is true so far as it means that this centre is not directly one with others, and that the material and the agency out of and by which my self is made, is to that extent private. But we turn our truth into sheer error when we maintain that my self is an independent substantive, to which the rest of the world belongs somehow as an adjective, or to which other self-sufficient Reals are externally related. Such a position, we have seen, cannot be defended. That foundation and agency from and by which my self is generated, and through which alone it persists, is one thing with the whole Universe. My self may rightly be called a necessary and even an indispensable element in the world. But its ultimate substantiality and closed privacy seem to be no more than false inferences.

It would not, I think, be well for me to enlarge further on points where I could do little but repeat what I have said elsewhere. My object here is not so much to argue that the above views are correct, as to urge that any criticism of such views merely from the outside will touch no one who has understood them. I fully agree that difficulties are left which, if you like to say so, must be swallowed. The fact of an all-embracing, supra-relational, absolute experience you may call, if you please, "unverifiable". I do not know what this word means, and, so long as its meaning is unknown, I do not care to object to it.¹ But I hold to the above fact because to me it is the necessary conclusion from what is certainly given. And I hold to it because on this ground it seems to me possible, far better than on other grounds, to do justice to the various aspects of life. And when I hear, for instance, that in the Absolute all personal interests are destroyed, I think I understand on the contrary how this is the only way and the only power in and by which such interests are really safe. For after all, whether we wish it or not, we have got somehow to believe in something, and, at least in philosophy, I suppose we wish to believe in something self-consistent. And when, rejecting the Absolute, I consider the alternatives that

¹ I should myself suppose that no philosopher ever did hold a doctrine which he did not take to be in some sense verifiable. And no one, I should have thought, ever honestly advocated ideas, unless he thought that these ideas served some purpose, and so were useful and worked, and naturally possessed the character required for such working. I do not know why certain critics, in order to grapple more effectively with the Absolute, should apparently think it well to begin by divesting themselves of everything like ordinary Common Sense. On the other hand I gratefully welcome the existence of various criticisms, which, whether they seem to me to be justified or not, are at least thoughtful and sane.

are offered me, my mind is affected as follows. I not only find these alternatives to be untenable and self-inconsistent, but I at least cannot understand how any one, who realises what in the end they mean, can suppose them to be compatible with the satisfaction of all our highest demands.¹ If to satisfy such interests is "to work," then these alternatives to my mind do not work. But I must end these introductory reflexions, such as they are, and approach the special subject of our article.

(I.) In dealing with Error we are at once led to ask how it stands to Appearance. Is all appearance to be called error? I will venture here to repeat briefly what I have stated elsewhere.² The term "appearance" has a twofold meaning. If you take it as implying an object and the appearance of something to some one, then all appearance is at once both truth and error. Appearance in this sense involves a judgment however rudimentary, but the term is used also in a much wider sense. You have appearance wherever, and so far as, the content of anything falls outside of its existence, its 'what' goes beyond its 'that'. You have reality on the other hand so far as these two aspects are inseparable, and where one may perhaps be said to reconstitute the other. Now in every finite centre (on our view) the Whole, immanent there, fails to be included in that centre. The content of the centre therefore is beyond itself, and the thing therefore is appearance and is so far what may be termed 'ideal'. It has what later becomes for us a meaning, a meaning which is used as an idea, as an adjective which qualifies that which is other than its own being. And thus by anticipation all appearance may be called error, because, when

¹One hears, for instance, that our spiritual interests require the absolute reality of time; and there seems often to be literally no idea that such a doctrine is contrary to that which we most care for.

The Moving Finger writes; and, having writ,
Moves on: nor all thy Piety nor Wit
Shall lure it back to cancel half a Line,
Nor all thy Tears wash out a word of it.

Surely, as an ultimate truth, this is as abhorrent to our hearts as it should be false in our philosophy. And, if on the other side you emphasise the ultimate truth of chance and change, and urge that lapse and instability invade even the past, I do not see that you have gained anything. If there is to be no supreme spiritual Power which is above chance and change, our own spiritual interests surely are not safeguarded. But, with any such Power, it seems to me nonsense to talk of the absolute reality of time.

²*Appearance*, pp. 485-486.

you go on to think of it as being true, you are led (at least on my view) to recognise that it is false. So far indeed as you confine yourself to what is felt, you have no recognised contradiction (I shall return to this), nor anything which for you appears, or can for you be either true or false. For these qualities in the proper sense exist only in judgment. Since however we can go on to judge of everything, all appearance may thus be called already true or false. And in the end for myself all appearance is at once both truth and error.

To pass from this point, there is, I have contended, in all truth the separation of idea and being, the loosening of that which an idea itself is from that which it means and stands for. And in my opinion this breach is at once essential and fatal to truth. For truth is not perfect until this sundering of aspects is somehow made good, until that which in fact is, forms a consistent whole with that which it stands for and means. In other words truth demands at once the essential difference and identity of ideas and reality. It demands (we may say) that the idea should in the end be reconstituted by the subject of the judgment and should in no sense whatever fall outside. But the possibility of such an implication involves, in my view, a passage beyond mere truth to actual reality, a passage in which truth would have completed itself beyond itself. Truth, in other words, content with nothing short of reality, has, in order to remain truth, to come short for ever of its own ideal and to remain imperfect.¹ But on the other side there is no possible judgment the predicate of which can fail somehow to qualify the Real; and there is hence no mere error.

There are, we may say, two main views of error, the absolute and the relative. According to the former view there are perfect truths, and on the other side there are sheer errors. Degrees of truth and error may, on this view, in a sense be admitted, but in the end you have ideas which are quite right and again other ideas which are quite wrong. This absolute view I reject. I agree that in limited spheres and for some working purposes its doctrine holds good, but I find it untenable ultimately. In the end there are, I am convinced, no absolute truths, and on the other side there are no mere

¹ Thus when I think of the Absolute, in which all ideas are in the end real, that truth and thought does not, in my judgment and for me, re-constitute the psychical being of my idea. Everything, that is, implies everything else. But in a judgment you fail to include the condition on which your idea is true of the Real. And you also fail to include the condition on which your judgment, itself as a fact, exists. And these two disabilities in the end are one.

errors. Subject to a further explanation, all truth and all error on my view can be called relative, and the difference in the end between them is one of degree. This doctrine at first sight may perhaps seem paradoxical, but, when its real meaning is perceived, I think the paradox disappears. And I will venture here to repeat and to enlarge on that which I have advocated elsewhere.

If there is to be sheer truth, the condition of the assertion must not fall outside the judgment. The judgment must be thoroughly self-contained. If the predicate is true of the subject only by virtue of something omitted and unknown, such a truth is defective. The condition left out is an x which may be filled in diversely. And, according to the way in which the unspecified condition is actually filled in, either the judgment or its denial is true. The judgment therefore, as it stands, is ambiguous, and it is at once true and false, since in a word it is conditional.

The more the conditions of your assertion are included in your assertion, so much the truer and less erroneous does your judgment become. But can the conditions of the judgment ever be made complete and comprised within the judgment? In my opinion this is impossible. And hence with every truth there still remains some truth, however little, in its opposite. In other words, you never can pass wholly beyond degree.

The limited self-contained subject to which you seek to attach the predicate, is not in the end real as so limited. And further, even if it were so, there remains a difficulty with regard to predication. For the separation of the predicate from the subject seems at once to be necessary and yet indefensible. These obstacles in the way of perfect truth are on my view irremovable.

All judgment (I have argued elsewhere) predicates its idea of the ultimate Reality.¹ Certainly I do not mean by this to

¹ At the same time the very form of predication prevents any judgment from being perfectly true (*Appearance*, p. 544). Subject to this condition the above doctrine to my mind holds good. There is an objection, raised by Mr. Russell (*Principles of Math.*, p. 450), that on this view you cannot say that "Reality is real" or that "Existence exists". No truth (I have just stated) can upon my view be perfectly true, but, apart from that, I should find it easier to deal with this objection if I were told the sense in which any one ever could want to say that Reality is real. To affirm that Reality has the character of reality, I presume, is harmless, while to suggest that Reality is a member of a class "real," to my mind is monstrous. And it would be of course wrong to call it "real," in some sense which would restrict it. With regard to "Existence exists," once more, until I know exactly what that means, I can hardly reply. What I can say is this, that to place "Existence" itself within the sphere of

deny that there is a limited subject. On the contrary in all judgment the subject is in some sense limited. But, notwithstanding the presence of this narrowed subject, I urge that the assertion is made of the Universe. For the judgment affirms reality, and on my view to affirm reality is to predicate of the one Real. This one Reality I take to be a whole immanent in all finite subjects, immanent in such a way that nothing finite can be real by itself. Thus, with every finite subject, the content of that subject is and passes beyond itself. Hence every assertion made of the subject implies that which is not contained in it. The judgment in other words is made under a condition which is not specified and is not known. The judgment, as it stands, can therefore

existence would be clearly indefensible. There are, however, several other objections raised by Mr. Russell (*ibid.*, p. 448), which I think I understand, and to which I will reply briefly. (i.) It is (as we have seen) true that predication is in the end self-contradictory. (ii.) It is true that relations (*a*) do, and (*b*) do not, presuppose their terms. Terms (*a*) must be, and (*b*) cannot be, different through being related. And within any related term there is a difference which sets up an endless process. (iii.) It is true that to predicate of the Absolute involves contradiction, because it involves an unjustified difference between subject and predicate. It implies that the Absolute as subject is not the Absolute but a distinction made within it, and so on indefinitely. While admitting or rather urging all this, I do not agree with Mr. Russell that I have failed to see and to meet it.

There is an objection raised by Prof. Taylor, in the *Proceedings of the Aristotelian Society*, vol. ix., p. 205, to which I have to make much the same reply. Certainly I myself am not a class and cannot (to speak strictly) be a predicate, but then again, to speak strictly, I cannot be a subject either. Our relational logic (no matter of what kind) is in the end not adequate to reality. It is adequate neither to my self nor the Universe, nor on the other side to any given fact of sensuous perception or of feeling. From this I do not see that any conclusion follows which is contrary to that which I hold. For such a conclusion would (as I understand) be required other premisses which I should reject.

I should be glad to carry out here a sort of promise, and to discuss the arguments advanced by Prof. Dewey, in *MIND*, No. 63, but I do not find that this is possible. Any objection resting on the antithesis of "formal" and "material" I obviously cannot deal with, unless supplied by Prof. Dewey with a clear statement as to the meaning to be given to these ambiguous terms. And as the idea of truth's plunging us into contradictions is to Prof. Dewey obviously inconsistent with the idea of its also pointing to an end above and beyond them, and also realising that end progressively, though always imperfectly—and as on the other hand all this to me is consistent, and was offered to and urged on the reader as consistent and true—there is really nothing to be discussed by me, and no more to be said but to leave the issue to the reader. But I am ready to admit that, though I seldom read anything written by Prof. Dewey without pleasure, when it comes to first principles I seldom succeed in understanding him. On some of the points, referred to in this footnote, I shall once more touch in the Note appended to this article.

(as we saw) be both affirmed and denied. It remains conditional and relative only. Our advance in knowledge consists, we may say, in further specifying the conditions; but, though in this way truth is increased, it at no point can become absolute. This is the principle and the foundation of the relative doctrine of error and truth.

Now you may object that in the judgment the condition, though it may not be stated, is understood. It is left out (you may say) merely for the sake of convenience. But, if so, the judgment, as it stands, is I presume admitted to be imperfect. And when you urge that the conditions are understood, I reply that, if so, they can be stated. But (I will return to this) I maintain that you are really unable to state the conditions. You cannot in the end specify them, and you cannot show how far, being completely specified, they would modify your subject and your judgment. The conditions therefore, which you call "understood," remain in the most fatal sense unknown. And the only consistent course which remains is to deny wholly that these conditions exist. Reality consists *of* (we must not say *in*) an unconditioned plurality. Reality is not R but *r, r, r*. There are thus a number of self-contained subjects, and it is of one of these that you make your assertion, which is hence absolutely true. How can it be conditional in a world where nothing like a condition or an implication exists, or indeed could have any meaning? This I take to be the real absolute view of truth, and I will return to it lower down.

I will now go on to notice the difficulty which attaches, not merely to the subject of a judgment, but to the predication itself. If the predicate is different from the subject, what is the sense and the justification of their unity? And, if the predicate is not different, is there any sense left at all? If we take the "is" as *mere* identity, the assertion disappears. It once more vanishes if the "is" is understood as mere difference. And the question is whether we have any other way of taking the "is" which in the end satisfies us and is tenable. We do not, in my opinion, possess any other way.

We start (if I may once more repeat this) from the immediate union of one and many, of sameness and difference, which we have given to us in feeling and in the inherence of qualities in a sensuous whole. This immediate union is of necessity dissolved in our judgment, and it never in any judgment is completely made good. The higher form of union, which satisfies at once our feeling, sense, and intelligence, is not found, in my opinion, within truth itself. It lies beyond and on the other side of judgment and intelli-

gence. It is a goal to which always we may be said to draw nearer, but which never is reached wholly. And the reason is that in sense and feeling the unity of sameness and difference is *not* unconditioned. It is conditioned, but it is conditioned for us unintelligibly. The "how" of the union remains unknown. But in intelligence and judgment the use of an unknown "how" does not satisfy. An assertion made under an unknown condition, we have seen, admits the assertion of the opposite. Hence our aim is to replace the sensuous "is" by a full statement of the conditions under which the predicate and subject are connected. But, our statement remaining incomplete, the connexion remains in part unintelligible. The "is" of our judgment against our will is left in part still untransformed. But the consequence is that, since we can no longer use the sensuous whole of feeling, and since certainly we do not mean to affirm bare difference, all that we have left is mere identity—which again certainly we do not mean. We wish to discover how the subject and predicate are in one. The object of intelligence is to find the complete conditions under which the predicate is (we may say) equated to the subject. And, as long as we stop short of these, our judgment may perpetually advance in truth, but in the end any judgment remains erroneous and untenable. This difficulty is not removed by the acceptance of finite realities independent and self-contained. It is a difficulty inherent in predication itself.

In general then (to pass from this point) every error upon our view contains some truth, since it has a content which in some sense belongs to the Universe. And on the other side all truths are in varying degrees erroneous. The fault of every judgment may be said to consist in the taking its subject too narrowly or abstractly. The whole of the conditions are not stated. And hence, according to the way in which you choose to fill in the conditions (and no special way belongs to the judgment), the assertion and its opposite are either of them true. Again all judgments may be condemned on the ground that they take the subject too widely. The subject turns out to be the ultimate Reality, at which the judgment did not aim specially, and so has missed its genuine aim. The subject in other words is not confined as we desired to confine it. But these two defects obviously are in principle one. Their root is the indissoluble connexion of our limited subject with the ultimate Reality, the discrepancy between these two subjects, and our inability to close this breach by "conditions". Our judgment makes its predicate real, but when it is asked *how*, being real, its predicate differs from the

Reality, it fails in the end to answer intelligibly. The same fault again shows itself when we consider the form of predication. That form in principle transcends the immediate totality of sense and feeling, and is therefore condemned to seek another way in which sameness and difference are united. This way (we have seen) consists in the discovery and statement of explicit and complete conditions. And the search for these conditions, driving (on our view) the judgment beyond any finite subject, fails of perfect success. The full implications of any judgment in the end fall beyond our understanding. This discrepancy of the whole with the finite centre, a discrepancy implicit only in feeling, becomes visible in the form of judgment. The discrepancy is not removed within the region of truth proper, and that region is hence throughout affected more or less by error. And the difference between error and truth will in the end consist in degree.

In the above statement the words "in the end" must be emphasised. It is an old objection that, if you believe in an Absolute, all distinctions are lost, and, since everything comes to the same, nothing in particular is left. And I admit that the relative view of error and truth may be held and taught one-sidedly. But, rightly understood, it comprehends, and on a lower plane it justifies the absolute view. In the realm of the special sciences and of practical life, and in short everywhere, unless we except philosophy, we are compelled to take partial truths as being utterly true. We cannot do this consistently, but we are forced to do this, and our action within limits is justified. And thus on the relative view there is after all no collision with what may be called Common Sense. Before explaining this more fully I will once more point out the real essence of that absolute view which I reject.

Error upon this view will consist in the deviation of the idea, whether by excess or defect, from that reality at which it aims. It is impossible for me here to be precise, and you may understand reality as a fact or as a mere type, or in short however you think is best. The point is that by being something else, whether by addition or substitution or default, or through all these in one,¹ the error is not the truth. Degrees need not be denied, but all the same it is insisted that we have here a matter of Yes or No. And what is here assumed is that the reality, or the type, itself is self-contained and fixed. This is an assumption made often by that which

¹ *Substitution* in the end seems otiose, and *addition* and *default* seem in the end to imply one the other.

would wrongly usurp the name of Common Sense. But the ultimate root of this assumption is, as we saw, a certain doctrine as to the final nature of reality. Reality must be such as to comprise self-existent pieces of fact and truth. The principle and the conclusion involved here is of course Pluralism, which, if it aims to be consistent, holds to relations which are barely external and tries to take the Universe as a mere "And".¹ The point which should be emphasised is that everything ordinarily covered by the word "implication" is here utterly denied. Nothing can make in the end any kind of difference to anything else, for every kind of difference and relation is external and cannot qualify that outside of which it falls. And the whole as "And," since it is to make no difference to anything, seems in fact to be nothing; or else, if something, it will itself require to be comprised in a fresh "And," and so on indefinitely. This is the underlying principle which seems involved in what we have called the absolute view of error. I have stated this principle in my own way, a way which I certainly attribute to no one else, and I do not propose further to criticise it here.

Among various ways of reply I will notice an answer which I have mentioned already. "The separate facts and truths," it may be said, "need not really be separate. They are however determined definitely, because fixed by a Universe which is conditioned really throughout." Now, even if the conditions of our finite truth are known and could be given, surely apart from these conditions our truth is so far imperfect, and exists only by a kind of convenient sufferance. But on the other hand suppose that the conditions are not statable because they are not known; in this case the whole conclusion which I advocate appears to follow irremediably. You may possibly reply that you do not know the conditions in detail, but, none the less on this account, you believe them to exist. You therefore are justified in taking the finite fact and the finite truth as being real and perfect. To me however this position appears to be untenable.

There are conditions, known or unknown, from which a finite fact or truth follows. Certainly I agree to this, and I would even add that so much as this is obvious, since otherwise the fact or truth would not be there for us to discuss. But on the other hand I would urge that such a contention here is irrelevant. If there are also other conditions from which the opposite of the given truth follows, then the truth is at once true and false, and, as it stands, clearly is defective.

¹ See *MIND*, No. 72, p. 497.

And, in order to avoid this and in order to show that your fact or truth, as it is, can be justified, what is incumbent on you is to exclude the possibility of these opposite conditions. The question may be put thus, when *all* the conditions are considered, does your finite fact or finite truth still persist in the character in which you take it? To reply in the affirmative on the ground that there are at least some unknown conditions from which the truth follows, seems hardly defensible. For the position which you have to defend is (as we have seen) not merely positive, but has a negative side also. And I do not understand how you are to base this negation, and this exclusion of other conditions, upon simple ignorance. What is wanted is a positive and an actual inclusion within the judgment itself of all the conditions required. And the question is whether and how such an inclusion is possible.¹

Passing on from this reply we may consider truth and error under the heads (a) of abstract ideas and (b) of matters of fact. The former head (a) I shall touch on but briefly. The contention that an abstract truth is wholly and utterly true, must mean, I take it, that this truth, as it stands, is self-contained and self-subsistent. Either there are nowhere any conditions or implications, and nothing anywhere makes a difference to anything, or else in this truth you have within itself any conditions that are required. The first of these alternatives involves a view of things which to my mind is in the end unintelligible. And the second alternative again I am unable to accept. In no case; it seems to me, is it possible to take any abstract truth as being real by itself. Every such truth appears to me to be generated, and to subsist, subject to implications and conditions not falling within itself and in the end nowhere completely known. And, if this is the case, the opposite of any abstract truth can obviously never be utter and total error. But to justify this contention in detail, and to attempt to show how the abstraction made everywhere in the special sciences entails inconsistency, is, I regret to add, even if space here permitted it, beyond my power.

I will go on to deal at greater length (b) with "matters of fact". What is contended here is that a fact, in time or space or in both, is, as it stands, real, and that hence such a fact can serve as a test of absolute truth and sheer error. The ground of this contention, at least in most cases, seems to consist in an appeal to "designation," a subject on which I

¹ I shall discuss lower down the attempt to gain this inclusion by postulating uniqueness.

have already remarked in a preceding article.¹ The "this," "now," and "here" of my feeling may, as they are merely in my feeling, be said to be unique and self-contained. And, though this statement requires some qualification, that qualification may here be ignored. But it is a serious mistake, starting here, to go on to suppose that the characters of my feeling are transferred unabridged to what I call a truth about a particular fact in space and time. The particular fact is to have a unique place within a single unique order, and otherwise its nature becomes general and ceases forthwith to be what we mean by particular. But on the other hand our truth fails to reach beyond generality, and hence the opposite of our truth becomes also tenable. "Cæsar crossed the Rubicon," we say, "or not"; but this "either-or" is only true if you are confined to a single world of events. If there are various worlds, it may be also true that Cæsar never saw the Rubicon nor indeed existed at all. And, with this, obviously our truth has ceased to be absolute. Nor is it possible for us to remedy a disease which belongs to the very essence of our procedure. You cannot at once translate feeling into judgment and leave feeling untransformed; and what is lost in the translation is the positive uniqueness which you demand. The "this," as you use it, becomes general, and, though it does not become negative wholly, it becomes essentially negative. You insist that "this" is not "that," though to each you give only a sense which is general. But the "this" which you feel and which you mean, does not trouble itself about a "that," since it is positively itself. And since your truth fails and must fail to contain this positive meaning, your truth is defective,² and is self-condemned.

The matters of fact in which we are to find absolute reality and truth, must, in the first place, be self-consistent; and they must, in the second place, go beyond a mere generality in which both what we mean and its opposite hold good. But our matters of fact belong essentially to an order in time if not also in space. And with regard to the self-containedness of any member in these orders there are well-known difficulties. In the case of time these difficulties are ag-

¹ MIND, No. 72, p. 500. There is in the present article, I have already admitted, a great deal of repetition. I hope however that the reader may consider this to be more or less justified.

² I may perhaps mention that criticisms on Hegel, with regard to his teaching as to the meaning of "this," usually show to my mind an entire failure to perceive what he is driving at. But the reader must not take the statement in the text, however much it owes to Hegel, as being an exposition of his doctrine.

gravated, and, far from being the technical puzzles of the school, they are visible to all who reflect. Are past events, we all ask, dead, and is the future really nothing, and, if so, what is left, and what do we mean by the present? And again, if future and past are not wholly unreal, can we on the other side say that they really exist? And, if lapse and change are not to be inherent in matters of fact, in what other region shall we place them? But I propose to say nothing here on difficulties which to my mind are fatal, and which destroy the claim of matters of fact to possess independence and consistency. I will, passing from this, deal briefly with the question of uniqueness.

If truth as to matter of fact falls short of uniqueness, that truth, we have seen, is defective. Without contradicting yourself you can at once affirm and deny that Cæsar crossed the Rubicon. But such uniqueness (as we have already seen in part) is unattainable by truth. For it is not sufficient to give to your event an exclusive place in its series. The event still remains a mere generality, unless the series itself is unique. What you seek is something which is positively itself, and not a sort of a heading which can be identified at once with discrepant qualities. But no truth can reach the unique order which is to be the condition of such an absolute fact.

Uniqueness is a well-known topic which might with profit be discussed at very great length. I must confine myself here to stating briefly what to myself appears to be the one tenable conclusion. Wherever you have a different quality, you have so far something unique, and this is the one root of uniqueness. Uniqueness in a word means difference, and difference in a word means a quality. For a distinction without a difference, or again a difference without a diversity in quality, are things which in the end to me are devoid of meaning. I do not, I hope, ignore wholly the difficulties which have led to the acceptance of such ideas, but, whatever are the difficulties, these ideas I am unable to accept. Briefly then every quality, so far as it is distinct from other qualities, is unique. You cannot conceivably divide it and make two specimens within it and of it, unless you introduce further difference and go on to make so far new quality. A quality which positively is itself, and therefore and so far cannot be something else, this is in the end the one foundation on which to my mind uniqueness is tenable. Uniqueness has a negative aspect, but that negative aspect must rest on a positive quality.

The "this" of feeling (I ignore here the difficulties which

arise)¹ in every case, I agree, is positive and unique. But when, passing beyond mere feeling, you have before you what you call "matter of fact" the case forthwith is altered. The uniqueness has now to be made "objective". It has to be contained within the judgment and has to qualify the content of your truth. The possibility of another fact in another series must be excluded, so that in your fact and truth (with all its imperfection) you have nevertheless no general sort but a determinate thing. But, since you have destroyed the positive quality of the felt, you have now no means by which to reach your end. Where is the quality in your truth about your matter of fact which makes it particular, which excludes other series and the possibility that in another series the same thing happens differently. Show me this quality or else confess that your truth is not absolute, and that "Cæsar never crossed the Rubicon" is not utter error. You can of course assume that any order of events is unique. You can of course credit it with an unknown quality which makes it itself and which repels all other series. And I need not ask here in what sense such an assumption might be true. What I am urging is that even on such an assumption there is an unknown quality which is not, and cannot be contained, within your judgment. There is that which falls outside, and, falling outside, makes the truth conditional. For that Cæsar on a certain unspecified assumption in fact crossed the Rubicon is surely compatible with the assertion that the actual fact is also otherwise. Your judgment is but conditional because (if I may repeat this once more) you have failed to get within the judgment the condition of the judgment.² And the accomplishment of this (if it were possible) would involve the essential transformation of your judgment.

¹ Of these I will mention two. In the first place every different "this" will require a new quality. In the second place we have the problem of the connexion of identity with difference and of the "infinite process" which arises at either end. Cf. *MIND*, No. 72, p. 505. Uniqueness is a subject to which I desire to return.

² In order to include uniqueness within the judgment "Cæsar crossed the Rubicon" you would require (I should say) not less than *two* false assumptions, and with anything less must fail. (i.) You want (a) an assumption that there is only one possible order in space and time—an assumption which in my opinion is not true (*Appearance*, chap. xviii.); or (b), failing this, you must include a definition of the particular order which you mean. (ii.) Having got so far, (a) you must make a further assumption that within your unique order there is no possible recurrence of "Cæsar"—and this assumption again to my mind is quite untenable. Or you must (as you cannot) define the "this" of that Cæsar which you mean. The reader will of course understand that the above unique order, with its exclusion of possible recurrence of "Cæsar," has got to be made true unconditionally of the Universe.

The absolute view of perfect truth and of sheer error rests, we saw, on the idea that separate facts and truths are self-contained and possess independent reality. And such an idea (we have argued) must be rejected in the end; but this does not mean that the absolute view is to be rejected altogether. We are told (to repeat this) that to those who accept a real Absolute, and with it a relative view of truth, everything in particular becomes so much the same that the distinctions which give value to life disappear. But such a charge, I pointed out, is due mainly to misunderstanding. Within limits and in their proper place our relative view insists everywhere on the value and on the necessity of absolute judgments, both as to right and wrong and as to error and truth. Life in general and knowledge in particular rest on distinction and on the division of separate regions. And, though these divided regions are not independent and each self-contained, yet within each to a very large extent you must proceed as if this were so. If you ask me, for instance, whether there is truth in the statement that $2 + 2 = 5$, I answer that (though I am ignorant of mathematics) I believe this to be sheer error. The world of mathematics, that is, I understand to rest upon certain conditions, and under these conditions there is within mathematics pure truth and utter error. It is only when you pass (to speak in general) beyond a special science, and it is only when you ask whether the very conditions of that science are absolutely true and real, that you are forced to reject this absolute view. The same thing holds once more with regard to "matters of fact". Obviously the construction in space and time which I call "my real world" must be used, and obviously, within limits, this construction must be taken as the only world which exists.¹ And, so far as we assume this, we of course can have at once simple error and mere truth. Thus the doctrine which I advocate contains and subordinates what we have called the absolute view, and in short justifies it relatively.

On the other side, even within the special sciences and within the world of practical life, the absolute view of truth has its limits. The ideas which we use within the special

¹ Apart from a certain reservation as to dreams and dreamlike states, this "real world" is the world of practice. The difference in practice, between my reaching here and now my end and failing to reach it, may be said to be absolute. And this absolute difference is thus fully preserved in our relative view. We must remember here, on the other side, that the ends to be realised in my practice cannot all be said to belong to my "real world," and are certainly not all "practical". Any doctrine of practice for the sake of practice will not stand before an inquiry into the meaning of "practice".

sciences are hardly self-consistent, and in our practical life we experience the collision of discordant principles. And it is now an old story that, even if the worlds of our diverse interests were each at one with itself, at all events these worlds can conflict with one another. Assuredly it is not merely within philosophy that the absolute view of error and truth is driven to suggest itself as false. But for philosophy, as I at least understand it, the reason is plain. All ideas in the end, if we except those of metaphysics, lack ultimate truth. They may be called working conceptions, good and true so far as they work. And, because they work, and because nothing else could work so well, there is therefore nothing better and nothing truer than such ideas, each in its own proper place; since nothing else could possibly be more relative to our needs. But these ideas are not consistent either with one another, or even with themselves, and they come short of that which we demand as truth. How far and in what sense even within metaphysics that demand can be satisfied, I have discussed elsewhere.¹

The doctrine that there is no perfect truth or sheer error may be said to conflict with Common Sense, if you understand by that term the fixed prejudices of one-sided reflexion. This is the Common Sense which we too often find with the specialist and in the market-place. But if Common Sense is taken more widely, the above conflict disappears. Is it after all a paradox that our conceptions tend all more or less to be one-sided, and that life as a whole is something higher and something truer than those fragmentary ideas by which we seek to express and formulate it? Is it after all the man who is most consistent who on the whole attains to greatest truth? To most, if not to all of us, I should have thought that there came moments when it seemed clear that the

¹ *Appearance*, pp. 544 foll. How far (we may ask here in passing) are the ideas used by metaphysics to be called "working conceptions"? (i.) In the first place these ideas are not merely "instrumental". They are not mere means to some end outside of, or other than, understanding. And (ii.) they are not means to or elements in the understanding merely of one limited region. On the contrary metaphysics aims at understanding the world in principle, in general and as one whole. The ideas used for this purpose, since they work, may, if we please, be called working conceptions. They are again all imperfect, and all differ in the degree in and to which they approach and fall short of perfection. But the main point is this, that, in order to work metaphysically, these ideas must themselves have the character of the metaphysical end. They do not merely conduce to a foreign purpose, but are themselves the *very* existence in which their end and principle is realised. The phrase "working conceptions" tends, I think, to suggest that this is otherwise, and hence it seems to me safer not to apply it to the ideas of metaphysics.

Universe is too much everywhere for our understanding. Any truth of ours, no matter what, fails to contain the entirety of that which it tries to embrace, and hence is falsified by the reality. There is always another side, which we may be right or may be wrong to ignore, but, we being limited as we are, there must for us be of necessity another side. And indeed the whole conclusion which I advocate here on the ground of metaphysics, far from being paradoxical, comes near, I should say, to platitude. If I were not convinced of its truth on the ground of metaphysics, I should still believe it upon instinct. And, though I am willing to concede that my metaphysics may be wrong, there is, I think, nothing which could persuade me that my instinct is not right.

(II.) I will pass on from this to remark briefly on one of the points which remain. Error, appearance and truth, we have seen, do not in their proper sense belong to feeling. And again in their proper sense they on our view are transcended in the Absolute. Taken as such and in their special character they belong to what we may call the intellectual middle-space, the world of reflexion and of sundered ideas and of explicit relations. But, and this is the point on which I wish to insist, the middle-space is not detached and it does not float. Not only do all ideas without exception qualify the Real, but ideas everywhere are only so far as they are felt. Ideas exist nowhere except so far as they belong integrally to the world of some finite centre.

It may repay us to consider the matter further with regard specially to Contradiction. The self-contradictory, I suppose most of us would agree, is unreal. And yet, since we discuss it, it is clear that the self-contradictory in some sense exists. Whether this is a problem which presses more on those who agree with me than on those who differ, I will not here discuss. The problem was noticed by myself some years ago (*MIND*, No. 20, p. 482), and I have returned to it later (*MIND*, No. 43, p. 308, and No. 60, p. 455); and I will once more here offer the solution which seems satisfactory.

The reader will recall that on our view there is in feeling no contradiction as such. We feel uneasiness and change and we have in feeling contents which do not agree.¹ An experience of this kind may be intense, but it gives no awareness of contradiction, and that it should give this

¹ Cf. *MIND*, No. 69, p. 51. I may perhaps be permitted to mention here, in passing, that I do not venture to derive change from inconsistency. I think it better to take change as belonging to the inconsistent finite, but exactly how we do not know.

seems impossible. For, however great our uneasiness, however discordant and unstable our condition, whatever comes in feeling must come together and must come somehow in one. So far as feeling goes, we may say that an unknown condition of union is implied and is operative. And this state of things is again present in those perceived contents which no analysis breaks up, and in various forms it underlies the mere conjunctions of our confused thinking. Contradiction in the proper sense is made only by reflexion.¹ It is when diversities are referred to and located in the same point that they clash. When we analyse (and to think we must analyse) the immediate bond of union with its unknown condition is perforce more or less discarded. The diversities can hence no longer come to us as somehow conjoined. And, attempting to connect them simply, thought forces them into an open conflict, where our felt uneasiness is developed before us into explicit contradiction. Within was a felt conjunction which failed to satisfy and caused disquiet and unrest. And it is the breaking up of this congeries, and it is the attempt to identify differences apart from any condition of union, which turns our inward unrest into the collision of a perceived discrepancy.

But (and this is once more the point which we should emphasise) there is no such thing as a mere contradiction, just as there cannot be any such thing in the world as a bare negation. Every negation (I have dealt with this elsewhere) must have a positive ground. And every contradiction implies in some sense the actual conjunction of that which clashes. Within feeling, as we saw, and in many cases even within sensuous perception, the discrepant elements were, by virtue of an unknown condition, together in one whole. And when these elements pass into judgment and are seen to collide, they nevertheless, in order to collide, must in some way be perceived to coexist.

When I think of contraries I first take them as being somehow separated and yet conjoined. The special nature

¹ See *Appearance*, Appendix, Note A. The reader will remember that we have diversities which can sensuously be in one and "coinhere," and other diversities where we find that this is not possible. An inconsistency like change, for instance, can be felt and perceived (so far as appears) immediately and simply. An inconsistency, again, such as a round square, cannot be perceived or felt apart from some further complication. This distinction possesses on certain views, which I think erroneous, a fundamental importance. But a thing to me is not self-consistent or real because it is present in feeling or to perception. Beside the pages of *Appearance* just referred to, the reader will find some further discussion in *MIND*, No. 20, pp. 475-481.

of this "somehow," this known or unknown condition, will vary in different cases, but it here is irrelevant.¹ Then in thought I remove this imaginary condition of both apartness and union, with the result that the diverse elements tend to be forced together in one point. On this ensues a clash and a divergence, with a recognised failure. And, generalising this experience, we now set down the elements as contraries. We say that they are such as not to be predicable of one and the same subject, the truth being that we have abstracted from them and from the subject every condition of union. But the above experience is possible only because the contrary elements are not simple contraries. In order to perceive them or to think of them, even as repellent, they must be still before us in a medium in which so far somehow they do not collide. And obviously they and our whole knowledge of their collision must be felt. It must depend on a positive and an immediate awareness within my finite centre.

Contradiction in the proper sense thus belongs to the middle space of our reflective world, and it may be said to inhabit that region, or rather part of that region, which lies between feeling and perfect experience. But contradiction is perceived nowhere except on the ground of a neutral conjunction, present to sense or imagination, and it is possible only because in the end it rests and is based on felt positive experience. And contradiction, we may add, is erroneous only because it is deficient, because the condition on which the contraries were conjoined is in part suppressed, and because the condition of their higher unity has not been supplied. We should however remind ourselves that this problem, like other problems, is but soluble in part. The immediate immanence of the one Reality in finite centres has always to be presupposed; and this fact, we have seen from the first, remains inexplicable.

(III.) I will end by touching on a difficulty which was noticed some years ago by Prof. Stout.² The Absolute must

¹ When I, for instance, think of a round square, I may for the moment drop out of view the special meaning of these words, and couple them as if they were some other adjectives, like "cold" and "green," which can together qualify a perceived thing. Or, if I realise the meaning of "round" and "square," I may drop out of view the identity of the space which these adjectives are to qualify. I take the round space and the square space as being somehow diverse; or again I may deliberately represent them as two surfaces, one lying over the other, and so compatible. The moment, however, that I suppress the diversities and make these spaces really one, a collision takes place and the round square is destroyed.

² *Proceedings of the Aristotelian Society*, "Mr. Bradley's Theory of Judgment," pp. 27-28.

really have appearances or it could not appear, and hence the appearances (it is objected) cannot really be mere appearance. Before discussing this, I would first mention that on my view there is not and cannot be any such thing as a *mere* appearance. The reader next should recall the twofold meaning of the word "appearance". That sense of the term in which something appears to some one, we have seen is secondary. What is fundamental is (as we have seen) the presence in everything finite of that which takes it beyond itself.

Having removed from our minds these possible misconceptions, we may address ourselves to the above dilemma. Are we to maintain that the Absolute does really appear? If we answer No, then it seems to follow that nothing appears. But if on the other hand we say Yes, then finite centres seem at once to have become absolutely real. Our true reply, as I understand the matter, is to say "Yes, but also and in the end No". The Absolute really appears, but the conditions of its appearance are not known.¹ Our statement therefore is defective, and comes short of truth in the highest sense of that word. It needs correction somehow, but how to correct it we are unable to discover. Nor can we even take our statement to be in the end corrigible by any mere intelligence. Hence on the one side, because nothing intelligible can be set against it, its truth is ultimate and final; while on the other side that truth remains defective and must in a sense be called untrue. The real appearance of the Absolute in finite centres is a thing which therefore in the above sense can rationally be at once affirmed and denied. The same reply holds once more with regard to the ultimate reality of degrees. There is a point where the 'how' of things passes beyond the nature of our vision, and where our knowledge, because defective, is condemned in a sense to remain erroneous. On the other hand, since there is nothing which can be opposed to our main conclusion, that conclusion is certain, and we may rest on it as finally true. All understanding and truth, upon my view, to reach its end passes beyond itself. It is perfect only when beyond itself in a fuller reality. But short of such a completion, and while truth remains mere truth, there are assertions which are so far ultimate and utterly true. The above general explanation

¹ This again is in principle the answer to the objection urged by Prof. Royce (*The World and the Individual*, Series i., pp. 550 foll.). The objection, as I understand it, rests on the assumption that the transcendence of the relational form, which is experienced in the Absolute, must itself be in the relational form, or else be nothing. But it is precisely the opposite of any such alternative which, at least I have contended, is true.

of the proposed difficulty was offered in my volume (*Appearance*, pp. 544-545). I should hardly exaggerate if I added that the view of truth and reality which, I think, solves the above dilemma, is really the beginning and the end of that volume. It is at any rate a conclusion offered as something which can stand between us and a logical issue in theoretical scepticism. It is a doctrine which to my mind is less one-sided than others, and, so far as I can judge, the criticisms directed against it have left it unshaken. This is however a point on which the decision must rest with the reader.

SUPPLEMENTARY NOTE.

In this Supplementary Note I propose to deal briefly with two subjects. (I.) I wish to examine the doctrine as to Number advocated by Prof. Royce in *The World and the Individual, First Series*. And (II.) I must attempt to show that some of the main ideas on which Mr. Russell's views seem to rest, are inconsistent and ultimately untenable. It is with great reluctance that I enter upon either undertaking. I am ignorant of mathematics, not willingly but through radical incapacity; and again (it is perhaps the same defect) I cannot follow any train of reasoning which is highly abstract. If under these circumstances what I am about to write proves worthless, no apology, it is clear, can help me. The reader in that case must judge of me as seems to him best.

I. I understand Prof. Royce to contend that number and truths about number can be constructed *a priori*, and that these truths are completely unconditional and self-consistent. The origin in time of our perception of number and quantity he, I understand, does not discuss, and we are concerned simply with what may be called an act of logical creation. I will ask first as to the nature of the process, and next as to the character of the result.

The process of creation appears to consist in reflexion, a process more or less familiar to students of philosophy. We are to think of some object (no matter what), and then we are to think of our thought of this object, and so on indefinitely. In this way we gain (it is contended) an ordinal series where the process contains no unknown condition, and where the result is consistent. Now I agree that in the above way we produce somehow a series which is ordinal, in the sense that each fresh product somehow contains and preserves what has gone before. I do not mean that, after reflecting in such a manner for a certain time, I know in fact

where I am, and could say how many steps are included in my present result. To gain that knowledge I should say that a further operation is required. Still I admit (what is, I presume, the main point) that through the process of reflexion an ordinal series is somehow generated. What I have to deny is first (a) that the generation consists in pure thought, and next (b) I have to deny that the product is consistent with itself.

(a) You have an object (O) before your self (S). You then go on to reflect that this is so; and in consequence you now have a new object (S—O) before you. A further reflexion of the same kind gives an object ($S - \frac{S}{O}$), and thus you make

an ordinal series which has in principle no end. Now what is the nature of this process? Prof. Royce contends that all that you start with is not a one in many, nor even a mere many, but simply an object. This is all that there is, and then pure thought (I understand) supervenes and produces the result. Here I join issue. I can no more accept Prof. Royce's doctrine than I can accept what is often understood as the process of Hegel's dialectic. I do not believe in any operation which falls out of the blue upon a mere object. On the contrary I maintain that with an object you have, and you must have, a felt self. And I urge that this felt self is a one in many and many in one, which for the intellect remains incomprehensible, and which therefore for the intellect depends on an unknown condition. Hence you really start with a felt subject (S) which is complex, and which contains in itself the object (O), which is both felt in it, and is opposed to it. Whether we ever in fact have an O which is single, I need not stop to discuss. In any case your experience at the start is complex, and you have a demand on the part of this experience to make the object adequate to the whole subject, and to carry out the subject into the object. This is the basis and this is the impulse which (I contend) sets up the process of reflexion. And the process cannot end, because to make $O = S$ would destroy in principle the whole experience. To come to an end the process must simply cease, or else lapse back, or else be taken up into something higher.

Thus the series of reflexion is generated by and through the unity of immediate experience. And this unity is a one in many and a many in one which for thought is not intelligible or unconditional. It is this totality which for ever demands an expression which is unattainable within our relational experience, or within any experience for which the object is against the subject in some way which we are un-

able to understand. The principle of the process therefore does not reside in pure thought, but on the contrary must be said to imply a mere conjunction. And any process other than the above to my mind is even impossible. There is for me no such thing as a mere object or mere objects, or any process of reflexion which falls down from nowhere.

(b) Prof. Royce insists that both process and product are self-consistent and free from all contradiction. If what I have already urged is correct, no such claim can be admitted. An immediate totality, unless you allow and include an unknown condition, cannot without inconsistency be formulated in thought. If the one is *not* one of the many, it seems to be nothing, and if it *is* one of the many, there is no one left in which the many can be. There is therefore either an unknown condition or else a self-contradiction. So again with the whole and its parts. So again with the class and its members, a matter to which later in this Note I shall return. We have a difference which cannot be, and yet must be, and we have to choose between a self-contradiction and the admission of an unintelligible condition. So again with subject and object. These have got to be different, or what are they? On the other side the difference of the object excludes perfect satisfaction. The end is not reached except for a passing moment. The object therefore both must remain, and yet cannot remain, over against the subject. There is a "beyond," to be for ever asserted and denied. The formula is "Realise the subject as object beyond any object," and surely such a formula is not self-consistent. For myself I urge that there is here an unknown condition and that so the contradiction is avoided. But how Prof. Royce can avoid it I am unable to say.

Hence the principle which generates the series carries within itself a difference and a negation, which it at once asserts and denies. To Prof. Royce, on the other hand, the principle is wholly positive (p. 510), but how that can be I fail to perceive. The illustration again advanced by Prof. Royce (pp. 503 foll.) appears to myself to contain an obvious and glaring fallacy (*cf.* Prof. Taylor's *Elements of Metaphysics*, p. 150). The idea of a copy which has not an existence different from, and so far negative of, its original, remains to me meaningless. If you take away the idea of another existence, another and a different medium and fact, you for my mind abolish the essential element of copying and representation. And yet, according to Prof. Royce, the coming into existence of the copy is not to alter the fact. And, while I hesitate to attribute to Prof. Royce such an open

inconsistency, I have been unable in any other way to interpret his teaching. I must end therefore by submitting that both principle and product are self-contradictory in essence. And I have already urged that the process is not unconditional and "pure".

Finally there is a question on which I would invite the reader to reflect. The empirical origin of our sense of more and less, of quantity and of number, I am willing to treat here as being irrelevant. But another question remains which can hardly be dismissed. How far does our arithmetic depend upon spatial schemata? How far can we rid ourselves of the datum of space as perceived, and how far is this datum ultimately consistent and intelligible? I raise no separate doubt as to time, since our developed perception of time itself appears largely to be spatial. How far, even to think of (I do *not* say to experience) the relation of object to subject, are we forced to make this a spatial relation to something which certainly is not in space? And the endless process of reflexion on reflexion, how far without a spatial scheme can any such process exist? And what in the end holds our ordinal series both apart and together? These questions to my mind are very relevant, but I can do no more than suggest them to the reader. Apart from any answer to them, I have however endeavoured to show that Prof. Royce's generation of number is, in the form in which he advocates it, not proof against criticism. I cannot however end without thanking him for the service which he has done in calling attention to issues, the importance of which, I am sure, he in no way exaggerates.

II. I have now to remark on some of the fundamental ideas used by Mr. Russell, and must endeavour to show that these ideas contain inconsistency. It is a task to which in one sense I am quite unequal. I am incompetent utterly to sit in judgment on Mr. Russell's great work (*Principles of Mathematics*). But, if the mathematical part is as good as the part which is philosophical, I am sure that he has produced a book of singular merit. To confine myself here to a one-sided criticism of ideas which I can only partially comprehend, is ungrateful to me, and I could not do it if I did not feel myself in a sense compelled to say something.

I understand Mr. Russell to hold that mathematical truth is true perfectly and in the end, since the principles as well as the inferences are wholly valid. The fundamental ideas, I understand, are throughout self-consistent. If there were an exception the extent of its influence would raise a question

at once of the most formidable kind, and the main doctrine obviously would be imperilled. But this is a point on which, through my own incapacity, I have been unable to appreciate Mr. Russell's decision. I must therefore, passing this by, go on to inquire as to the consistency of some leading ideas.

I encounter at the outset a great difficulty. Mr. Russell's main position has remained to myself incomprehensible. On the one side I am led to think that he defends a strict pluralism, for which nothing is admissible beyond simple terms and external relations. On the other side Mr. Russell seems to assert emphatically, and to use throughout, ideas which such a pluralism surely must repudiate. He throughout stands upon unities which are complex and which cannot be analysed into terms and relations. These two positions to my mind are irreconcilable, since the second, as I understand it, contradicts the first flatly. If there are such unities, and, still more, if such unities are fundamental, then pluralism surely is in principle abandoned as false. Mr. Russell, I cannot doubt, is prepared here with an answer, but I have been unable to discover in what this answer consists. To urge that these unities are indefinable would to myself be merely irrelevant. If they had no meaning they could serve no purpose, and the question is with regard to their meaning. If that is not consistent with itself or with Mr. Russell's main doctrine, then that meaning is not admissible as true, unless it is taken subject to an unknown condition. But, if so taken, that meaning, I would urge, is not ultimate truth. For a certain purpose, obviously, one can swallow whole what one is unable to analyse; but I cannot see how, with this, we have rid ourselves of the question as to ultimate truth.

On my own position here I need not dwell. For me immediate experience gives us a unity and unities of one and many, which unities are not completely analysable or intelligible, and which unities are self-contradictory unless you take them as subject to an unknown condition. Such a form of unity seems to me to be in principle the refutation of pluralism, and on the other side it more or less vitiates the absolute claim of all truths (I cannot stop here to make the required qualification) including those of mathematics. Now what is Mr. Russell's attitude towards a position of this kind? On the one hand I understand him to reject it most decidedly. On the other hand, wherever anything like "implication" or "unity" is involved (and how much have we left where these are excluded?), Mr. Russell seems to myself to embrace a conclusion which in principle I find it hard to distinguish

from my own. And, it being clear to me that there is something here which I have failed to comprehend, I must leave this fundamental issue and go on to consider some difficulties more in detail.

The notion of "implication,"¹ I understand Mr. Russell to say, is necessary for mathematics; and let us consider very briefly what this notion involves. It seems to mean (if it means anything) that something is both itself and more than itself. There is a difference here which is both affirmed and denied; for of course that anything should imply *merely* itself is meaningless. But how can anything be at once itself and in any sense not-itself? Mr. Russell leaves us here, so far as I have seen, without any assistance. But with this we are face to face with the familiar problem of the one and many, the universal and particular. We are driven back to the immediate experience where the whole is in the parts and where, through the whole, the parts are in one another. But such an immediate experience seems in the first place (I would repeat) to contradict pluralism, and in the second place it offers by itself no theoretical solution. The same difficulty appears in "such that". If this phrase does not mean that a particular is also a universal, and with a certain consequence, it surely has no meaning at all. But how to justify this necessary inconsistency Mr. Russell does not tell us. Among other fundamental troubles of the same kind I would mention the ideas of "occupation" and of "magnitude of". Certainly Mr. Russell asserts here the existence of a relation, but this assertion to my mind seems obviously opposed to fact, and once more I find an unjustified recourse to the inconsistency of immediate experience.

I will enter now on some instances of a somewhat different kind, where however the difficulty remains at bottom the same. I will not repeat what in a former article I have urged with regard to the word "And" (MIND, No. 72, p. 497, *note*). Its relevancy and its importance in this connexion however are obvious. But, leaving this, I will touch briefly on the subject of relation and identity. Mr. Russell, I understand, defends and builds on such an idea as the relation of a term to itself. This idea to my mind is unmeaning or else self-contradictory. To my mind a relation must imply terms, and terms which are distinct and therefore different from one another; and our only ground for thinking otherwise in any case is our failure to apprehend the diversity which has really

¹ In connexion with "implication" the axioms given by Mr. Russell (p. 16) demand the attention of logicians. But want of space makes it impossible for me to offer here any criticism.

been introduced. Mr. Russell in particular uses and justifies the abstract identity of a term with itself. He does not, I think, say the same thing here with regard to difference. But, if difference is a relation (and, if it is not a relation, its nature seems puzzling), and, if again all relations are external,—then the difference of a term from itself seems as justifiable as its identity with itself. For, *ex hyp.*, it is all one to the term what its relations are. But, however that may be, Mr. Russell defends identity between a term and itself. And this idea surely contradicts itself, since (to repeat this) diversity is required for relation, and Mr. Russell would not admit that the idea can be at once the same with itself and different from itself. He attempts to justify his doctrine here by producing a number of examples (p. 96). But I can see no meaning in any one of these unless diversity is introduced, and I will lower down say something more with regard to one instance.

I will proceed now to remark more in detail on the inconsistency of such an idea as “class”. We have here no fresh difficulty in principle, any more than if we examined, for example, such a word as “instance”. It is still the old problem of the universal, and of the one in the many, and the dilemmas which everywhere arise change their particular shape but not their radical essence. Mr. Russell however has attached great importance to the problem raised specially by the word “class”. I regret that my incapacity for following abstract arguments has prevented me in great part from understanding the position which he has here taken up. But I will venture briefly to exhibit some of the puzzles and inconsistencies from which I cannot find that he delivers us.

I will first remark that no class can be related merely to itself. We have seen above that everywhere relation without diversity is meaningless. In the next place no class can consist only of one member. Such an idea is a fiction which contradicts itself. It ceases to do this only when you introduce plurality in the form of *possible* members. Where these are excluded, as in the idea of the Universe, you can no longer speak of a class. The Universe obviously is no class nor any member of a class of Universes. And in any case, with the introduction of possibility into the idea of class, difficulties would arise, which, as I understand it, on Mr. Russell's view would be fatal. The idea of possibility, I may perhaps add, seems to call for an attention on his part which it appears hardly to have received. The account on page 476 seems scarcely adequate, and the idea, I submit, must be dealt with in any satisfactory account of Continuity and Infinity.

After this necessary preface I will set out briefly the inherent inconsistency of "class". (a) The class is many. It is its members. There is no entity external to and other than the members. The class is a collection. And it is not a mere possible collection, nor is it a collection of mere possibles. Either of these alternatives would ruin the idea of class, as could be shown, if required. The class is an actual collection of actuals. But it is a collection which is not collected by itself (that idea would seem meaningless), nor is it again collected by anything from the outside—for, if so, it would have to contain this other agency. It is a collection, since it is taken together; but it is a collection collected by nothing—an idea which seems either senseless or self-contradictory.

(b) The class is One, but the One is not something else outside the members. The members even seem to be members because of what each is internally. And this apparent quality in each cannot be a relation to something outside the class. The One clearly is something within the members. If there are two qualities they must be taken in one, or else we have forthwith two classes. And (to return to the idea of a collection) two collections, differing only as collections and not differing at all in their contents, seem certainly not the idea which we seek in a class. On the other hand a quality merely internal to each member seems to leave the class without any unity at all. The unity therefore, not being external, must be taken itself as a member of the class. And, since this once more seems senseless, the class appears to be dissolved.

To save ourselves from ruin we may construct a new class which is wider, and which includes within itself, as members, both the members of the old class and their unity. But since the principle of inconsistency is left, any such expedient is useless. We are forced once more to dissolve our class and to seek refuge in a still wider class. And, when we have reached our widest class of all, our bankruptcy is visibly exposed. We are then compelled openly to make the class as one a single member of itself as many. And with this we end in what is meaningless or else plainly is in contradiction with itself.

The discussion of these inconsistencies (the reader is perhaps aware) might be pursued almost *ad libitum*. Since the class cannot fall outside the several members, each member by itself will be the class, and will even be the whole class. And from this will follow results which are obviously ruinous. For instance, the member itself will become many,

and will be internally dissipated. But the reader, if so inclined, can develop these consequences for himself, as well as the puzzles which arise in connexion with the ideas of "a collection" and of what is "actual" and "possible". I have, I hope, said enough to show that the idea of class is inconsistent ultimately, and that every region, where it is employed, must be more or less infected with self-contradiction.

How Mr. Russell would avoid this conclusion I regret to say I have been unable to understand. He apparently defends the idea of a class being a member of itself—an idea which to myself contains a glaring self-contradiction. And, as we have seen, he advocates the doctrine that a term can be related to itself—a view which for the same reason I am forced to reject. In every instance adduced, such, for example, as "Predicability is predicable," I find (I would repeat) a distinction and difference, or else I find nothing. The reader will permit me perhaps to illustrate and explain this statement by the instance of "being". I do not reject as meaningless such a judgment as "being is" or "is is". I only insist that, in order to have a meaning, I must introduce distinction and diversity. I might, for instance, mean by such an assertion that only or merely being is and that anything else must be denied. I might wish to convey that after all, or whatever else it is, being still is. I might in the end mean that in "being" itself is the distinction and diversity of "what" and "that," and might imply that either of these thus "is," and yet that each of them is so different from "being" that our assertion "is is" may be significant. And then I might go on to urge, of "what" and "that," that each is included in the class of the other, and that each is a part of the other and so perhaps even of itself. And in short I might develop all those monstrous results which follow when an inconsistent idea like "class" is taken as true, not for a limited purpose, but absolutely.

I will end by some remarks on the subject of negation. It seems to me that negation is a topic which, on a general view like Mr. Russell's, causes difficulty, and calls for more notice than (so far as I can find) it has received. Mr. Russell's doctrine of zero to myself appears to be philosophically untenable; and in various other ideas negation is present in a way which seems to me to call for explanation. I will take the last point first in connexion with such ideas as "a" and "any". (i.) "A man" appears to assert one instance of man and to deny more than one man. (ii.) "Any man" seems to affirm that there is a man, and to assert also the

existence of other men actual or possible.¹ It denies, with regard to these others, any difference—in a certain respect. “Any” therefore contains negation in its essence in the form of “it does not matter who or what”. (iii.) “Every man” and “all men” (I will not here discuss the difference between these) contain the denial of “man” outside of certain limits; while (iv.) “some man or men” means a man or several men, together with a negation as to my further knowledge. It conveys that “I know, or need know, no more about it than that”. Now I do not suggest that the negation in these terms is a matter with which Mr. Russell is not perfectly familiar. I am urging merely that I do not understand the place which in his general system of ideas negation is to occupy.

To come now to the account of zero, this idea, unless I have failed to understand it, seems to contain an open self-contradiction. It would seem that “no pleasure” has the same relation to *pleasure* as the various magnitudes of pleasure have, though it has also, of course, the special relation of negation (p. 186). The “also” here to my mind involves a self-contradiction. To my mind “no pleasure” excludes pleasure, and by consequence the required relation; and how this consequence is avoided by Mr. Russell I have been unable to see. On the alleged positive relation I have already remarked, and the difficulties attaching themselves to Mr. Russell’s idea of a kind of magnitude to myself seem insuperable. Every magnitude has “a certain specific relation to the something of which it is the magnitude. This relation is very peculiar, and appears to be incapable of further definition.” I must repeat with regard to this relation that to my mind it is a sheer fiction, as is also the relation alleged to exist in “occupation”. The fact is a complex not consisting of or reducible to terms in relation. But, however that may be, the proposal to unite this relation by an “also” to the relation of negation I can only understand as a demand to bring together simply two elements which exclude each other. And with regard to “indefinable,” what troubles me is not that I insist on defining everything. What troubles me is that, if an indefinable is meaningless, to me it is nothing, and that here the meaning which I *must* give to zero (if I am not to leave it meaningless) seems inconsistent with itself.

It is intolerable to my mind to speak of “no pleasure” as being a decreased lot of pleasure, or, when pleasure is once more added, to speak of pleasure as being increased. On the other

¹ “Any” tends to drift away from this assertion, but so tends to drift away from itself.

hand, since to me there is no such thing as bare nothing, and since all negation rests on a positive basis, you can rightly speak of diminution when you descend from pleasure to no pleasure, and, when you pass the other way, you can rightly speak of increase. But what is this positive something which has here become less or more, and has become less or more by pleasure? To call this something "pleasure," even where pleasure is specifically excluded, surely involves self-contradiction. And the same remark applies to any attempt to begin with less than something, and to increase this until it becomes something, or to descend by degrees of diminution from something to nothing. If such ideas are useful, then of course they must be used, but in the end they do not hold together. But I hasten to add that I think it probable that on the subject of zero I have wholly failed to understand Mr. Russell.

These pages have been written, I would repeat, with great reluctance and with a sense of compulsion. I have felt myself coming forward, or rather driven, to speak on matters where on one side I am quite ignorant, and where this ignorance is only too likely to have led me into fatal error. And I have criticised a writer whose work as a whole I am unable to appreciate, and in connexion with whom I can say nothing on some of those merits which I am sure are very great, but which are really beyond me. And, even where mere metaphysics or mere logic is concerned, I have had to confine myself here to dissent. I regret this, for I do not think, amongst those present writers on philosophy whom I know, there is any one who, as compared with Mr. Russell, calls for more or even for as much attention. For any student of first principles that attention seems to me to be not merely advisable but imperative. The problem of the general nature of order and series has been too much neglected, and yet surely it is a problem which seems infinitely promising. Not only has this inquiry been brought to the front by Mr. Russell, but he has, at the lowest estimate, supplied matter for its solution which no one can neglect. And to have done this by itself, even if he had done nothing beyond, is to have helped our philosophy in a way which, I hope and believe, will become more and more manifest.

II.—LINGUISTIC MISUNDERSTANDINGS.¹

BY HUGH MACCOLL.

PART I.

I. NON-EUCLIDEAN GEOMETRIES.

IT is a common saying among the distinguished mathematicians who have cultivated these fascinating studies that non-Euclidean geometries in general, and the Lobachevskian and Riemannian systems in particular, are no less "valid" than the common Euclidean with which we are all familiar. They do not assert, and since these three systems are, as they admit, mutually incompatible, they cannot very well assert, that all three are *true*. This seems to me somewhat perplexing. If the Euclidean, the Riemannian, and the Lobachevskian systems be founded on mutually incompatible principles, it follows that only one of them (if any) can be true: in what sense then can they be affirmed to be all three *valid*?

It is sometimes said that an argument (whether syllogistic or other) may be perfectly valid quite independently of the truth or falsehood of its premisses. This is a dangerous doctrine from which I emphatically dissent. I have given my reasons elsewhere (see *MIND*, N.S., 43, 53, and my *Symbolic Logic*, pp. 47-49), and need not here repeat them. The premisses and the conclusion are, in my opinion, the most important factors of an argument, and if either of these be false—what-

¹ Some of Mr. MacColl's most important work has appeared in our pages. The above article reached us very shortly before his death (in his seventy-third year) on 27th December last, and thus appears without his revision. Mr. MacColl was a man of great mathematical and logical ability and of a real philosophic depth which the readers of *MIND* were among the readiest to recognise. Mr. MacColl's circumstances were not too favourable to the development of his powers, and he is to be congratulated on having done so much excellent work. He died at Boulogne, where he had resided for forty-four years. Here he had been engaged principally in the teaching of Mathematics. Mr. MacColl, who was a B.A. of London, began his studies at Glasgow, and had been engaged in teaching at Oxford.—Editor *MIND*.

ever be the nature of the links connecting them—the argument should not be considered valid. Of course, this also may be considered a mere convention; but if so, I think it is one founded on common sense and practical convenience. Non-Euclidean also say that if the principles of the Riemannian or Lobachevskian geometries were unsound, they would lead to absurd and inadmissible conclusions. But to the simple unsophisticated intellect of the ordinary educated thinker that is precisely what has happened. For example, the principles of the Riemannian system lead necessarily to the conclusion that a point moving always in the same straight line, and never reversing its course, will at last arrive at its original position. Why should not this be regarded as a *reductio ad absurdum* of the Riemannian principle? The principle on which non-Euclidean secure validity, or apparent validity, for their reasoning seems to me of doubtful legitimacy. Without warrant or warning, they quite change the usual meanings of certain words and symbols, and especially that of the word 'straight'. With them this word invariably refers to some kind of *curve*, but of such a huge size that at every point the radius of curvature is *infinite* (in the sense of *inexpressibly large*), and the curvature consequently *infinitesimal*. The curvature is never quite zero, as then the lines which they call straight would also be straight in the ordinary acceptance of the word, in which case the non-Euclidean geometry would in all respects coincide with the ordinary Euclidean. But on this principle of arbitrarily changing the commonly understood meanings of words and symbols we might plausibly or paradoxically maintain that January has 37 days, February 34, and the whole year 555. We need only slyly change the base of our common arithmetical notation from ten to eight. Thus, 37 would mean $3(8)+7$, 34 would mean $3(8)+4$, and 555 would mean $5(8)^2+5(8)+5$.

M. Poincaré, in his *La Science et l'Hypothèse* (p. 67), says that the question whether the Euclidean geometry (or any other) is true is meaningless. "Autant demander," he remarks, "si le système métrique est vrai et les anciennes mesures fausses . . . une géométrie ne peut pas être plus vraie qu'une autre; elle peut seulement être plus commode."

But this is surely carrying liberty of conventions a trifle too far. In logic, as in practical politics, unlimited freedom is apt to degenerate into inconvenient licence, and ultimately into downright destructive anarchy. Every formula, even the most reliable, has its limits of validity, namely, the accepted conventional meanings of the words or symbols in

which it is expressed. Otherwise, we might legitimately convert any false statement into a true, or *vice versa*, by simply agreeing to change the ordinarily accepted meanings of the words or other symbols in which it is expressed. I cannot go quite so far as some extreme 'pragmatists,' who, from their language, would appear to consider the *true* as almost, if not quite, synonymous with the *useful*; but I sympathise strongly with pragmatism in the emphasis which it lays on the latter word, the *useful*. Even in the pursuit of abstract truth the most important discoveries usually fall to those who always keep in view the possible practical applications of their abstract researches. The Euclidean geometry seems to me to be the only true one, not merely because it is admittedly the simplest and most convenient, but also, and chiefly, because it is the only system that frankly accepts the customary conventions of ordinary language.

There is a limit to the utility of definitions. We should explain the obscure or the complex in terms of the simple and comprehensible, not *vice versa*. The idea of straightness is one of those elementary notions which cannot well be conveyed by a formal definition. A simple illustration, such as a stretched string or a line drawn by the aid of a ruler, will convey it much better. Similarly, an illustration on paper of a circle, an ellipse, an hyperbola, etc., will immediately give the general idea of a curve, though here formal definitions are necessary to distinguish between the various classes. The gradual prolongation of an hyperbola away from its vertex will make clear even to a schoolboy how, when the radius of curvature increases without limit, the curvature gradually becomes infinitesimal, when, of course, the curve cannot by any possible measurement be distinguished from an absolutely straight line. Similarly, any one can grasp the fact that no possible measurement by the most delicate of instruments can ever detect the curvature of any finite arc AB when the radius and circumference of the circle to which it belongs are infinite in comparison. That is to say, by express definition of the *finite*, the arc AB is expressible, either exactly or approximately, in terms of some recognised unit (as a yard or a mile), while, by express definition of the *infinite*, the radius or circumference is too large to be so expressible. These definitions of the *finite*, the *infinite*, and the *infinitesimal* appear to me to be the only workable ones. I have seen no others that do not involve some self-contradiction.

Prof. Keyser, in the *Hibbert Journal*, January, 1909, defines a class or collection as infinite when, and only when,

it "contains a part or sub-collection that is numerically equal to the whole". Now, when the symbol ∞ denotes some pseudo-infinity, such as $\frac{1}{0}$ or $\frac{2}{0}$ or the tangent of a right angle, our symbolic operations sometimes lead to such statements as $\left(\frac{1}{2} \times \infty = \infty\right)$, $\left(\frac{1}{3} \times \infty = \infty\right)$, etc., which seem to assert that infinity may be equal to its half, or its third, etc. But our symbolic operations also lead sometimes to such statements as $\left(\frac{1}{2} \times 0 = 0\right)$, $\left(\frac{1}{3} \times 0 = 0\right)$, etc.; so that a class or ratio whose part is equal to the whole may also be zero. The explanation of the seeming paradox is this:—

When x diminishes without limit for any positive finite value, say 1, till it becomes negative, the fraction $\frac{1}{x}$ passes through all possible positive infinite values, and the fraction $\frac{x}{1}$ through as many positive infinitesimal values, till both become negative when x becomes negative. When x vanishes into non-existence, as it passes from the positive to the negative state, the fractions $\frac{1}{x}$ and $\frac{x}{1}$ vanish into non-existence also, but with this difference, that the former is then represented by the symbol ∞ , and the latter by the symbol 0. Thus, $\frac{1}{2} \times \infty$, $\frac{1}{3} \times \infty$, $\frac{\infty}{1}$, $\frac{\infty}{2}$, $\frac{0}{1}$, $\frac{0}{2}$, etc., represent one class of non-existences, the pseudo-infinities, while $\frac{1}{2} \times 0$, $\frac{1}{3} \times 0$, $\frac{0}{1}$, $\frac{0}{2}$, $\frac{1}{\infty}$, $\frac{2}{\infty}$, etc., represent another class of non-existences, the pseudo-infinitesimals. The secant of a right angle belongs to the first class; its inverse, the cosine of a right angle, belongs to the other.

Prof. S. Alexander, in the *Hibbert Journal*, October, 1909, says that the system of numbers 1, 2, 3, 4, etc., is infinite,

"not merely because we can never get to the end of it, but for quite a different reason. Perform on each number of the system an operation, say, adding 1 to each number; you have 2, 3, 4, 5, 6, 7, etc., *which is a part of the original system*. Or double each number; the resulting infinite series 2, 4, 6, 8, etc., *is already contained in the original*."

Now, the two statements which I have italicised in the above quotation seem to me somewhat wanting in clearness. What does the word *part* mean in the one, and the word

contained in the other? Is it not usually understood that wherever there is a *part* there must also be a *whole*, and that this whole contains the part? It is true that if we continue the series 1, 2, 3, 4, etc., long enough, say, to an infinite number H_1 (infinite in the sense already given by definition); the series 2, 3, 4, 5, etc., to an infinite number H_2 ; and the infinite series 2, 4, 6, 8, etc., to an infinite number H_3 ; then the series 1, 2, 3, . . . H_1 , contains the series 2, 3, 4, 5, . . . H_2 , *provided* H_2 does not exceed H_1 , and it contains the series 2, 4, 6, 8, . . . H_3 , *provided* H_3 does not exceed H_1 ; but unless these relations hold between the infinities, the two statements in italics seem to me inadmissible. I cannot well conceive of a real whole class C (with members C_1, C_2, C_3 , etc.) being destitute of some *last* member C_n ; though I can quite conceive of n as infinite in the sense that it is far beyond the power of the decimal or any other arithmetical system of notation to express. Like the living population of a town, or of the earth, or of the real material universe, the number n may be conceived of as continually increasing, but at any given moment it exists. There can be no real *totality* without it.

II. AXIOM, INFERENCE, IMPLICATION.

From the statement that 'A implies B' it does not at all follow that B is a legitimate *inference* from A. As commonly understood, *inference* involves psychological considerations; *implication* does not. When we say that we *infer* B from A, we are understood to assert that we actually obtain our knowledge of B from our previous knowledge of A; but when we say that 'A *implies* B,' we usually mean, and in syllogistic implications we only mean, that the affirmation of A coupled with the denial of B constitutes an *impossibility*; that is to say, that this compound statement is either a linguistic inconsistency or else a statement incompatible with our admitted and unquestioned *data*. Just as a statement incompatible with our admitted *data* or linguistic conventions is called an *impossibility*, so a statement that forms a part of, or necessarily follows from, our admitted *data* or linguistic conventions is called a *certainty*. As used in formal logic, these two antithetical words do not of necessity involve any psychological considerations. It does not follow that a statement is a *certainty* because it is so considered. The statement that the earth is bigger than the sun was once universally but erroneously reckoned among the certainties; now it is universally and correctly reckoned among the impossibilities.

That is why some of the operations of formal logic, like some mathematical operations, may be accurately performed mechanically, like sewing or knitting, by unconscious inanimate calculating machines. This does not at all imply that formal logic is absolutely independent of psychology—that they have nothing to do with each other. That would be as erroneous as to assert that a clock or a watch has nothing to do with mind, because, once arranged and wound up, it will automatically record the progress of time without our intervention. As a never absent pre-condition of a working logical or mathematical formula, just as of an automatic inanimate machine, we find the inventive human intellect. From the very meanings of the words, as well as from universal experience, *mechanism* always implies *mind*, though mind does not necessarily imply mechanism. Everywhere in the universe, mechanism without mind—mind of some kind, human or superhuman—is a contradiction in terms. None the less, it is convenient in scientific researches to consider the two as far as possible apart. Just as the workings of the forces of nature are most simply explained by considering them apart from all questions of theology, so the operations of machines and of logical or mathematical formulæ are most simply explained by considering them apart from the mentality of their inventors.

There are, however, perfectly intelligible statements which, though necessarily either true or false, are neither certainties nor impossibilities. That is to say, they do not necessarily follow from admitted and unquestioned *data*, nor do they contradict such *data*. Such statements I call *variables*. To illustrate these three mutually exclusive classes of statements we may give "Australia is larger than Ireland" and "six is larger than five" as examples of *certainties*, a class denoted by the symbol ϵ ; "Ireland is larger than Australia" and "five is larger than six" as examples of *impossibilities*, denoted by the symbol η ; while, *when we have no data except our linguistic conventions*, the statement that "my horse will win the race" and the statement that "the number that will turn up is less than nine" may be taken as examples of *variables*, denoted by the symbol θ . Thus, in my symbolic system, the complex symbol $A^{\epsilon} B^{\eta} C^{\theta}$ asserts that the statement A is a *certainty*, that B is an *impossibility*, and that C is a *variable*. We might, however, have special *data* which would force us to class the above or other variables as certainties or impossibilities. For example, if the number possible be restricted by our data to the numbers 1, 2, 3, 4, 5, 6 (as in dice-throwing), the statement that "the number that will turn up is less than nine"

is a certainty, and the statement that "the number that will turn up is greater than nine" is an *impossibility*; while the statement that "the number that will turn up is greater than four" is a *variable*. Expressed in the technical language of probability, the chance of the truth of the first statement (or of the event which it affirms) is 1; the chance of the truth of the second statement (or of the event which it affirms) is 0; and the chance of the truth of the third statement (or of the event which it affirms) is two-sixths (or one-third). Regarded thus from the standpoint of probability, a *certainty* (ϵ) is a statement whose chance of being true is 1; an *impossibility* (η) is a statement whose chance of being true is 0; and a *variable* (θ) is a statement whose chance of being true is some fraction between 0 and 1.

Some logicians however maintain that it is incorrect to speak (as I do in the case of variables) of a statement or proposition as "sometimes true and sometimes false". I cannot see the incorrectness. It is purely a matter of convention, just as it is a matter of convention to speak of an event (such as the turning up of an ace in a game of cards) as sometimes happening and sometimes failing. Surely every time an event happens, a statement or proposition (whatever be the form of words) that affirms the occurrence is true; and every time it fails, this statement or proposition (*expressed in exactly the same form of words*) is false. The objectors to my view might similarly, and with greater plausibility, argue that no event ever happens more than once, since each fresh so-called recurrence is really a fresh and different event. I say "with greater plausibility," because, as a matter of fact, the events really *are* different, while the statement or proposition—that is to say, *the form of words*—may remain the same. The statement (or form of words) "an ace will turn up," pronounced before the event, or the statement "an ace has turned up," pronounced after the event, is surely true (or expresses a truth) whenever an ace does turn up, and false whenever it does not. Will it be objected that these are not real *propositions*, but mere "propositional forms"? Grammarians—and even objecting logicians when they are off their guard—often bring forward locutions like "The bird has flown," or "The boy has eaten his dinner," as examples of "propositions," though there may be no question of any real bird, boy, or dinner. Of course, we may agree to call such locutions "propositional forms" when they are not actually used to give real information, and only call them "propositions" when they are so used. But so we might agree to call a sword a 'slashing-weapon' when it is lying

idle in its scabbard, and only call it a 'sword,' or 'weapon,' when it is actually wielded in a serious battle. All such linguistic conventions are, of course, logically permissible; but are they needed, or would they be useful? With regard to the particular question at issue, would it not be better to restrict the expression 'propositional forms' to such forms as 'All X is Y,' 'A implies B,' 'A is greater than B,' etc., in which the letters X, Y, A, B are always understood to represent mere *blanks* that may be replaced or filled up by any words which would convert these meaningless forms into real intelligible propositions?

What is an axiom? No clear line of demarcation can be drawn between an axiom and any other general proposition or formula that is known and admitted to be true. So far as its formulæ and operations are concerned, symbolic logic ignores the distinction altogether. Indeed it could not very well take notice of the distinction without introducing psychological considerations, which are in general foreign to its purpose. A proposition that may appear axiomatic to one person may appear doubtful to another, until he has obtained a satisfactory proof of it; after which he treats it as an axiom in all subsequent researches. Apart from psychological considerations what is meant by 'proof' or 'inference'? What is meant by such an assertion as that "B is an illegitimate inference from A" when A and B are known previously to be both true? To an omniscient mind would not all true propositions be equally axiomatic? Would it not be absurd to speak of such a mind as *inferring* B from A? This, of course, is an extreme case, but such cases are precisely those that most effectively test the validity of a principle. On the same principle, does it not seem absurd to speak of *inferring* B from A, whether "legitimately" or "illegitimately," when A and B are truths which have been arrived at independently, or when B is self-evident apart from all consideration of A? As a concrete example, take the proposition that 'any two sides of a triangle are together greater than the third,' of which Euclid gives a formal proof. Seeing that none of his so-called axioms is more self-evident, why did he consider a proof necessary? Strict Euclideans consider no proof valid, however convincing, if it takes anything for granted that is not founded on Euclid's twelve axioms, although as a matter of fact, Euclid himself, in several of his formal proofs, tacitly assumes axioms which are absent from his given list. But the question now before us is: What is really meant by *inferring* (or *deriving*) a proposition B from another proposition A (whether axiomatic or not) when B needs

no proof, or is known to be true apart from all thought of A? The answer is not far to seek. It involves another meaning of the word 'implies'. The proposition B is said, in this sense, to be 'inferred from,' or 'derived from,' or 'implied in,' or 'contained in' A, when it is either a particular case of A, or when all the statements made in the so-called 'proof' of B are particular cases of the axioms or propositions which constitute A. For the sake of clearness, it would be better to express this kind of implication by the word 'contains,' rather than the word 'implies'. Thus, when A 'contains' B, it follows that A also 'implies' B; but the converse does not necessarily hold. For example, the formula $(x^2 - a^2) = (x - a)(x + a)$ both contains and implies the statement $(365^2 - 364^2) = (365 - 364)(365 + 364)$; and the converse also holds as regards the word 'implies,' since every certainty necessarily 'implies,' though it does not necessarily 'contain' every other certainty. But the converse does not hold as regards the word 'contains,' for though the general algebraic statement contains the particular arithmetical as a particular case, the arithmetical statement does not (in this sense) contain the algebraic.

A good illustration of these principles will be afforded by deducing the syllogism *Baroko* from *Barbara*. The syllogism *Barbara* (in its proper conditional or implicational form) is

$$(x : y) (y : z) : (x : z),$$

which we will denote by the functional symbol $\phi(x, y, z)$. *Baroko*, in its proper conditional or implicational form (beginning with the minor premiss), is

$$(z : y) (x : y)' : (x : z)'$$

which, by transposition, that is, by virtue of the formula $(AB' : C' = CA : B)$, is equivalent to

$$(x : z) (z : y) : (x : y),$$

which, by definition, is equivalent to $\phi(x, z, y)$. This shows that *Baroko* is equivalent to a syllogism which is a particular case of *Barbara*, as it is obtained from *Barbara* by interchanging y and z . Here the formula of transposition, $(AB' : C' = CA : B)$, as it holds for all values of A, B, C, evidently *contains* as well as *implies* the statement that the complex implication

$$(z : y) (x : y)' : (x : z)'$$

is equivalent to the complex implication

$$(x : z) (z : y) : (x : y);$$

for when we substitute $(z : y)$ for A, $(x : y)$ for B, and $(x : z)$ for C, we see at once that the complex equivalence expressed in terms of x, y, z is only a particular case of the simple equivalence expressed in terms of A, B, C. The implication $(AB' : C')$

is equivalent to the implication $(CA : B)$, because the former, by definition, means $(AB'C)^n$, and the latter, by definition, means $(CAB')^n$, which only differs from the former statement in the order of the factors in the brackets. Each asserts that the compound statement (CAB') is an *impossibility*. It is noticeable that the statement of equivalence, $(CA : B) = (CAB')^n$, is itself contained, and therefore implied, in the still simpler statement of equivalence, $a : \beta : (a\beta')^n$, from which it is obtained by changing a into CA , and β into B . It is also noticeable that though the implication $(a : \beta)$, which asserts that a implies β , is equivalent to $(\beta' : a')$, which asserts that the denial of β implies the denial of a , this equivalence does not hold when we substitute the sign of inference ($\therefore$) for the sign of implication ($:$). For it is clear that $(a \therefore \beta)$, or (" a therefore β "), which asserts both a and β , cannot be equivalent to $(\beta' \therefore a')$, which denies both a and β .

We may conveniently divest the word 'therefore' of all psychological meaning by agreeing to the convention that the symbol $(A \therefore B)$ shall simply mean $A (A : B)$, which both asserts A and that A implies B , in the sense already given to the word *implies*. On this convention, it of course necessarily follows that $(A \therefore B)$ is always true whenever A is true and B is a certainty; for, on this convention, $(A \therefore \epsilon)$ means $A (A : \epsilon)$, which $= A (A\epsilon')^n = A (A\eta)^n = A\eta^n = A\epsilon = A$; so that when B is a certainty (whether known to be so or not) the statement $(A \therefore B)$ simply asserts A , which is true by hypothesis.

Examples of inferences which finally lead to self-evident certainties are not uncommon in mathematics. Take the following. Suppose we have given us the statement of inequality

$$\frac{13}{8}x + \frac{1}{2} > \frac{3}{4}x - \frac{6-7}{8}x + 1,$$

in which, as usual, the symbol $>$ means "is greater than". Multiply each of these unequals by 8. We get

$$13x + 4 > 6x - (6-7x) + 8,$$

from the implicational formula (or axiom)

$$(m > n) : (Pm > Pn),$$

in which P is any positive number or ratio. That is, we get

$$13x + 4 > 6x - 6 + 7x + 8$$

Therefore $13x + 4 > 13x + 2$.

Subtracting $13x$ from each of these unequals, we get $(4 > 2)$, which is a self-evident certainty.

In this case we have deduced—we cannot, in the usual sense of the word, say "proved"—the obvious from the non-obvious, both being real certainties, though not both equally evident. By reversing the process, and suitably

choosing our axioms, or fundamental formulæ of appeal, we might deduce the non-obvious certainty with which we began from the obvious certainty with which we concluded. Similarly, by a proper choice of axioms, or assumed formulæ of appeal, we might deduce any certainty from any other certainty.

III. ANTINOMIES, LOGICAL AND PHILOSOPHICAL.

Symbolic logic, like the Kantian philosophy, has its antinomies; that is to say, apparently valid arguments that lead to contradictory conclusions. But there can be no such thing as a "reconciliation" of antinomies, Kantian or other. One at least of the arguments must contain an error somewhere, though it may be difficult to find out where. The following antinomy arrested me for a while in the development of my symbolic system.

The symbol A^θ , in my system, is short for $(A^\theta)^\theta$ and asserts that the statement A^θ is a variable.¹ The antinomy consists in the conflict of two arguments, of which the one professes to prove that the second-degree proposition $A^{\theta\theta}$ is an impossibility or self-contradiction; while the other professes to prove that it is not. The first argument is this:—

The statement A (assuming it to be intelligible) must be either a certainty, an impossibility, or a variable.

First, let A be a certainty, the certainty ϵ_1 . Then A^θ means ϵ_1^θ and asserts that a certainty is a variable, which is impossible. Thus, when A is a certainty the statement A^θ is an impossibility. Call it η_1 . Now, $A^{\theta\theta}$ means $(A^\theta)^\theta$, that is η_1^θ , and therefore asserts that the impossibility η_1 is a variable, which is a self-contradiction. Hence, when A denotes a certainty, $A^{\theta\theta}$ is an impossibility.

Next, let A be an impossibility, the impossibility η_2 . Then A^θ will mean η_2^θ and asserts that the impossibility η_2 is a variable, an assertion which is an impossibility. Call it the impossibility η_3 . Thus, $A^{\theta\theta}$, or its synonym $(A^\theta)^\theta$, means η_3^θ and asserts that the impossibility η_3 is a variable, which is a self-contradiction. Hence, when A is an impossibility, $A^{\theta\theta}$ also is an impossibility.

¹ A proposition of the form A^x is called a proposition of the *first degree*, because it has only one exponent, namely x . It asserts that the individual A belongs to the class x . That is to say, it asserts that the individual A represents one or other of the individuals x_1, x_2, x_3 , etc. A proposition of the form A^{xy} is called a proposition of the *second degree*, because it has two exponents x and y . It means $(A^x)^y$. Similarly A^{xyz} means $(A^{xy})^z$ and is a proposition of the *third degree*. And so on.

Lastly, let A be a variable, the variable θ_1 . Then A^θ means θ_1^θ and asserts that the variable θ_1 is a variable, an assertion which is a self-evident certainty. Call it the certainty ϵ_2 . Thus, in this case, $A^{\theta\theta}$ or its synonym $(A^\theta)^\theta$, means ϵ_2^θ and asserts that the certainty ϵ_2 is a variable, which is a self-contradiction. Hence, when A is a variable, $A^{\theta\theta}$ is an impossibility.

Thus we have apparently proved that whether A be a certainty, an impossibility, or a variable (and it must be one of the three) the second-degree proposition $A^{\theta\theta}$ is an impossibility.

The next argument, which professes to prove the opposite conclusion, namely, that $A^{\theta\theta}$ is *not* impossible, is as follows:—

Take any number of certainties ϵ_1, ϵ_2 ; any number of impossibilities η_1, η_2, η_3 ; and any number of variables $\theta_1, \theta_2, \theta_3, \theta_4$. Out of these nine statements take any statement at random, and call it A . If a certainty turns up we shall have A^ϵ , and the chance of this is $2/9$. If an impossibility turns up we shall have A^η , and the chance of this is $3/9$. If a variable turns up we shall have A^θ , and the chance of this is $4/9$. Thus, the three statements $A^\epsilon, A^\eta, A^\theta$ are all variables, since they are neither certainties nor impossibilities, their respective chances being proper fractions between 0 and 1. Thus, on these perfectly admissible data, which may be put to the test of actual experiment, the statement $A^{\theta\theta}$, which means $(A^\theta)^\theta$, and only asserts that A^θ is a variable, is true.

Thus $A^{\theta\theta}$ involves no formal self-contradiction, and in certain conditions (such as those adduced) it is perfectly possible.

After some reflexion, I found that the second of these antinomies (namely, that $A^{\theta\theta}$ is *not* self-contradictory) is the true one. Where then is the error in the first argument? It consists in this, that it tacitly assumes that A *must* either be *permanently* a certainty, or *permanently* an impossibility, or *permanently* a variable—an assumption for which there is no warrant. On the second supposition, on the contrary—a supposition which is perfectly admissible— A *may change its class*. In the first trial, for example, A may turn out to represent a certainty, in the next a variable, and in the third an impossibility. When a certainty or an impossibility turns up, the statement A^θ is evidently false; when a variable turns up, A^θ is evidently true; and since (with the data taken) each of these events is possible, and indeed always happens in the long run, A^θ may be false or true, being sometimes the one and sometimes the other, and is therefore a variable. That is to say, on perfectly admissible assumptions, $A^{\theta\theta}$ is possible; it is not a *formal* impossibility.

But, *with other data*, A^θ may be either a certainty or an impossibility, in either of which cases $A^{\theta\theta}$ would be an impossibility. For example, if all the statements from which A is taken at random be exclusively variable, θ_1, θ_2 , etc., then, evidently, we should have $A^{\theta\epsilon}$, and not $A^{\theta\theta}$. On the other hand, if our universe of statements consisted solely of certainties and impossibilities, with no variables, we should have $A^{\theta\eta}$, and not $A^{\theta\theta}$. Thus the statement $A^{\theta\theta}$ is *formally* possible; that is to say, it contradicts no definition or linguistic or symbolic convention; but whether or not it is *materially* possible depends upon our special or material data.

The Kantian and other antinomies of space and time may, I think, be similarly treated, if my definitions of the finite, the infinite, and the infinitesimal be accepted. Let us speak first of the abstract and purely conceptual spatial universe of the mathematician. This is a mere matter of convention and convenience. We may ascribe to it any shape and dimensions we please, provided they do not conflict with logical principles or human experience; but convenience and symmetry suggest that we should consider this conventional universe spherical with an infinite radius—infinite in the sense already defined. This will allow ample scope for all abstract speculation or theoretical reasoning, as well as for all the practical mathematical formulæ required by astronomers, present or future, in their stellar researches. For the numberless infinities, H_1, H_2, H_3 , etc., which the imagination calls into existence, being each, by hypothesis, not only too large for any scientific instrument ever to measure, but also too large for any numerical notation ever to express even approximately, and having respectively also by hypothesis any ratios to each other we please to give them, finite, infinite, or infinitesimal, the imagination obtains unlimited range, while the sober reason is kept within the wholesome restraints of linguistic consistency. Of course, this definition of the word 'infinite' is not in strict accordance with its primary meaning; but if words were always restricted to their primary meanings no human language could ever have been developed, abstract ideas could never have been formed, and science and philosophy would never have come into existence. Words are mere symbols to which we may assign any convenient meaning that suits our argument, provided we make it perfectly clear, by definition or context, what that meaning is.

But this abstract and purely conceptual space is not, I think, the space which modern Kantians have in mind when they discuss Kant's antinomies. They refer to what may be roughly called the world of realities—the material world of

phenomena that contains solids, liquids, gases, and the hypothetical ether, with the forces (conscious or unconscious) which we find acting on, through, and by means of those entities. The modern Kantians, adapting Kant's principles to the physical and psychical conditions revealed by modern research, maintain that, whether we start with the assumption that this world of realities is finite or with the assumption that it is infinite, we necessarily arrive at a conclusion which our reason rejects—a conclusion which, if not exactly a linguistic self-contradiction, is at any rate opposed to our *a priori* conceptions of reality. Now, if my definitions of the finite, the infinite, and the infinitesimal be accepted, the inevitable logical conclusion, as it seems to me, should be the exact opposite. Neither the assumption that the universe of realities is finite nor the assumption that it is infinite (as I understand these words) leads to any self-contradiction whatever; nor is either assumption opposed to our *a priori* conceptions of any reality. Why should there be any such opposition or contradiction, seeing that the spatial finite and the spatial infinite only differ in the fact that the latter is, and the former is not, utterly beyond our power of expression by comparison with any known unit, be it an inch, or a yard, or a mile, or a million million miles, or the circle or sphere of which any of these is the radius? This, of course, involves the conception of a bounded real and material ether-filled universe, finite or infinite as regards size or magnitude, with an absolutely blank, empty, etherless *nothingness* beyond—a purely conceptual abstract ultramundal space void of matter, void of ether, void of every kind of reality, sentient or non-sentient. This ultramundal vacuum is supposed by the Kantians to be an impossible conception. I do not find it so. On the contrary, what I find difficult to conceive is the non-existence of such a vacuum. I cannot picture to myself an absolutely boundless material or ether-filled universe existing everywhere with no absolutely empty etherless space anywhere. What is this pseudo-infinity but a resuscitation in another form of the meaningless old dictum that “Nature abhors a vacuum”? It is exactly paralleled by the pseudo-infinities $\frac{1}{0}$, $\frac{2}{0}$, etc., of mathematicians when they speak of the tangent or secant of a right angle—two trigonometrical ratios which do not exist, though the angle itself is a reality. Since, as it has been pretty well proved, nature has no particular abhorrence of an *airless* interplanetary and interstellar vacuum *within* the real universe, I see no valid reason why it should have any special abhorrence of an *etherless* vacuum *beyond* the universe.

III.—‘PHYSIOLOGICAL’ AND ‘PSYCHOLOGICAL’¹

BY W. H. WINCH.

I. INTRODUCTION.

IN the title of this paper, I wrote, at first, the words Psychology and Physiology; but a moment's reflexion convinced me that to attempt to perpetrate a paper on the whole of these two subjects in their present state of expansion would not be very unlike undertaking to write a treatise *de omnibus rebus*. The day for such exercises has, I fear, long since passed away, even if, at any period, I should myself have been capable of performing such a task. It is not, I conceive, a satisfactory answer to objections to such undertakings to say that we can safely treat subjects on their broadest issues without knowing the details; at least it is an answer which gets little currency of confident acceptance in these days. For we all nowadays, in theory at least, worship facts in such sciences as these, though it may still be necessary to ask more adoration of them in such pseudo-sciences as Education. It will not be then by turning my back upon facts, by disclaiming science and research, that I shall try to make out a case of valid epistemological criticism.

It is a spectacle for the curious, cheering to the empiricist, inexplicable to the ghosts of old philosophies, that the most successful epistemological work of the day has not been in the development of new methods of logical research; nor even in the justification of methods of proof and inquiry actually adopted; but rather in the criticism of the metaphysics of the natural sciences. The attitude of their metaphysic is indicated in the motto of the most typical scientific journal; perhaps not without a *Rücksicht* as to the appropriateness of its own title,

To the solid ground of Nature
Trusts the mind that builds for *aye*.

¹ A paper read before the British Psychological Society, 20th November, 1909.

Now this is a statement whose *in specie aeternitatis* expansiveness the progress of science has itself put out of court. Let me instance one troublesome and expensive fact. Inevitably, if we wish not to become hopelessly out of date, we must make a periodical clearance of those sections of our bookshelves devoted to the natural sciences. And as to Nature, well the word deserves a treatise all its own, which it cannot obtain here. One may remark, *en passant*, that Nature, in Wordsworth's sense, has long since become so conceptualised by scientific constructions that the poet would reject the greater part of modern science as having nothing to do with Nature at all. A wider view may be expressed in the lines :—

Nature is made better by no mean,
But Nature makes that mean ;
And above the Art which you say
Adds to Nature
Is an art which Nature makes.

But this is taking a non-natural view of Nature, and depriving us of the sound pragmatic distinction between natural and artificial. And it is the philosopher and epistemologist, nowadays, who reproaches the man of science for the highly conceptual nature of his universe, who demands that the unreal atomic worlds, the falsely styled realms of law in which he loves to dwell, shall be known for what they are—the heavens or havens of science, to which the tired researcher flies for rest from the otherwise inexplicable chaos of our earthly happenings, from whose lofty heights he can look down upon the jostling particulars of knowledge, and pride himself, sometimes delusively, that he, from his point of vantage, can see beyond and behind this incoherent crowd.

Well, I am not scientist enough nor philosopher enough to breathe in such rarefied atmosphere. Like the modern epistemologist, I am always asking myself how far the constructions of science and philosophy are necessary—necessary, that is, for the organisation of knowledge—and how far they are obstructive. I speak, *bien entendu*, not of hypotheses as such, nor of laws of thought as such, whatever they may be, but of the assumptions, not quite postulated as hypotheses, yet not quite conceived as axiomatic, on which we do our daily work and earn our daily scientific bread. But to do this questioning, one must at least know some of the facts—of course I mean some of the known and admitted facts ; only a giant in knowledge can produce new facts *and* argue principles as well. And perhaps, also, one must have worked a little at research oneself and thought consciously of the prin-

ciples he was assuming. And then in the science of which he has some knowledge, he may be able, just a little, to persuade a few others of like training and knowledge that the assumptions on which he and they are working are not irrefragable. Though, doubtless, both he and they must perforce go on working on them till experimental method, halting behind a little—as it ever does—can catch up and adapt itself to more difficult conditions of validity. All this being premised, I shall endeavour to say a word or two about the two terms ‘physiological’ and ‘psychological,’ since I conceive some present need to exist for discussing their relations. And I propose to do this, if I can, without attaching myself to any metaphysical doctrine of the constitution of matter or of the relationship between mind and body.

II. THE NEED FOR THIS DISCUSSION.

Let me not attempt to flog dead horses. The advent of physiological considerations into psychological discussion is a prominent feature of all the later movements in psychology, and I, for one, heartily rejoice at it. I have a singularly vivid sense of my own embodiment; and pure egos and ghostly visitants from extra-mundane spheres, though I do not wish to deny them, leave me indifferent. Unlike the French lady who did not believe in ghosts but was terribly afraid of them, I am more inclined to believe than to tremble, but I shall believe only on factual evidence, not on the evidence of ratiocination. All my bias is on the side of the natural sciences. I approached psychology through them, not through the history of philosophy and metaphysics; so that I ought, I suppose, to be perfectly satisfied with the present position. May I briefly indicate by illustration what I conceive it to be? No less a metaphysician than Dr. Shadworth Hodgson, at one of the early meetings of the Sociological Society, boldly announced that, in his opinion, there was no chance for a science of Sociology until we had proceeded much farther with the science of physiological psychology, until we knew the brain events corresponding to every psychical event and worked from the former. And in no less a book than Dr. Stout's *Analytic Psychology*, which is, perhaps, the last word on analytic psychology among British psychologists, the author thinks it necessary to make a kind of *apologia pro sua vita* in its Introduction—it is still necessary, he says, for psychology to be pursued, not as an appanage to physiology, but in its own way and in its own field. Much more recently Prof. Woodworth, one of the leading physiological psychologists of

America—who, strangely enough, is doing much to show the insufficiency of a psychology based merely on sensations and images—has advanced the view that psychology can give us the grosser distinctions only; it is physiology to which we must look for all the refinements of the future science of psychology—I am using only a summarised account of his paper, but I trust I am not misrepresenting him.

This accumulation of testimony is truly *denkwürdig*, especially when we remember *qui s'excuse s'accuse*, and the apologies of psychologists themselves. And it is backed by something more serious, by the growing positive spirit amongst men of general education—a spirit which operates in the following way and depends on the following considerations, more implicit, perhaps, than explicit.

Sensations, perceptions, ideas, conceptions are personal things and fluctuating things; they are temporary halting places in the stream of thought; they are not *selbständig*, they are all of them bound up with the physical world and incited by it at shorter or longer removes.

Moreover, though they are incited by it they are not to be compared in objectivity and stability with the processes of the physical universe; so, if we want knowledge, let us go where we can get it most easily, where the things will stand still whilst we examine them. Let us start from material things. That line of argument is the plain man's justification for psycho-physics—the sort of justification that may be heard in the common room of every college. When some obstinate person points out that, after all, one may never get the *whole* of mental science that way, he is answered thus:—

Your own writers call the mind a sensation-complex clustering together by the force of the association of ideas (a little rift here, but nothing of that now), and associations are dependent on times and places and the similarities and dissimilarities of things—the inner connexions are replica of outward ones. You have only therefore to set your face squarely towards Nature and, with no reserve or *arrière pensée*, to expose yourself to the atomic bombardment which reveals our universe, and you will become clear-sighted men of science like us.

Then one falteringly suggests that he has a nervous system which somehow transmutes the influence of the external world, and, after a while, the scientific man concedes you a new science of physiological psychology. He is happy because he can still deal, he thinks, with tangible things; and he thinks you ought also to be pleased, because you get the psychology in somehow. Indeed, on reflexion, the typical

scientist feels more secure than ever, for, whereas in the science of psycho-physics, its own progress had demonstrated that the correlations between physical happenings and psychical changes, even when measured with the most praiseworthy exactitude, were by no means such as to justify the doctrine that our mental happenings were a mere replica of our physical environment, in physiological psychology a brighter future seemed about to dawn; for, thanks to a one-sided doctrine of psycho-physical parallelism, there was now a chance of getting rid of the mental altogether—except epiphenomenally—and working wholly in terms of organs, nerve centres, neurons and vibrations. It was true that the epiphenomenalists, even in their own lectures on the subject, argued in mental terms, and not in anatomical diagrams and mechanical equations; but that was, of course, only to be expected in the infancy of the science. Moreover, we seemed likely, at last, to get *causes* comparable to the pushes and pulls of the material universe and *substances* of a solid sort to be pushed and pulled about. Mechanical explanation was to achieve its crowning triumph.

III. PHYSIOLOGICAL PSYCHOLOGY A LEGITIMATE STUDY FOR THE PSYCHOLOGIST.

Let me frankly admit and whole-heartedly confess, that I welcome most unreservedly all the knowledge which a study of the nervous system can throw upon our mental life. True it is that some psychologists, especially perhaps Prof. Ward, foreseeing the coming extravagances of the physiological doctrine, wrote psychology wholly in mental terms, not because they were ignorant of physiology—Prof. Ward had himself, I understand, done brilliant work in that field—but as a methodological protest against the mixing up of mental and physiological terms, which seemed to them to introduce confusion and oscillation in the science, since one could not always be sure whether a physical condition were being referred to or a mental state.

But the parallelists, arguing, strangely enough, from a limitation of their own doctrine, pointed out that unless we could take into account the merely physiological changes as well, we should leave a hiatus in our knowledge. (I do not speak of any merely metaphysical hiatus, I am prepared to jump all such in this article.) The sequence to the psychical itself would be broken and undeveloped. Physiology then must at least supplement psychology, and a plea for the recognition of physical dispositions was put in. Some, indeed,

who preferred interactionism, limited of course like their opponents' parallelism, pressed the claim too. We had heard of *psychical* disposition—which meant tendency or potentiality, as when we say it is a person's disposition which makes him act so and so; *physiological* disposition *could* be taken to mean the arrangement of nervous particles in space, and there was the psychical flavour about the word to suit the taste of the mere psychologist.

But this description did not meet with general acceptance, especially where such physiological dispositions were regarded as taking part in modifying conscious combinations, and the hypothesis of sub-consciousness—an alternative conception—still stands in psychological explanation. All this is very recent: a year or two ago the British Psychological Society found itself largely divided on the question, and only last year a battle royal raged in America round these two rival explanations in relation to questions of double personality.

The parallelists, mostly forgetting the doctrine that neuroses and psychoses imply each other, urged the desirability of the physiological explanation. It is true they had not one to give, except that of a hypothetical dissociation of nervous processes—a convenient word meaning both substances and actions, and this word itself had been borrowed from psychology.

They urged their case mainly by showing the illogical terminology of their opponents. It is easy to point out how absurd it is to talk of consciousness of which by very hypothesis we are not conscious, for sub-conscious means below the threshold of consciousness. Their opponents said that, they believed that the dissociated processes below the threshold of consciousness went on much as if they were conscious, and that they could give an account of them in the ordinary psychical terms—an account which should at least be intelligible. Sub-consciousness is an explanation which may be at least pragmatically true.

Their opponents urged the absurdity of speaking in this way of what was purely physiological process, and, as I have said, offered a physiological explanation or rather insisted on the desirability of a physiological explanation. I am, myself, prepared to accept either; I am citing this case to show that this discussion has very practical bearings, and results in sharp divisions of opinion about actual concrete cases; and I suggest further that the difference in opinion *may* issue in a difference in treatment between medical and mental therapeutics. I am, as I said, prepared to accept either, provided it affords theoretically a good basis for practical treatment,

though it seems probable that dissociated neurons will have to be associated more clearly with possible therapeutical practices before they can make good their theoretic claims.

IV. THE PRACTICAL IMPORTANCE OF A CLEAR UNDERSTANDING OF THE MEANING OF PHYSIOLOGICAL AND PSYCHOLOGICAL.

But let us suppose that we are arguing only with moderate people who are prepared to admit that

The Mind is its own place—

and derive no special pleasure from calling it epiphenomenal. These may very well urge, if they are parallelists of any sort, that it does not matter which of the two series of events we use in description, the mental series of events (where there are any), or the physiological series. If you can get the eel of science by the tail, why bother whether the eel is truly sinuous flesh and blood or merely the stream of thought.

Well, I, for one, should be quite content, at least I think I should. I have no desire to play the Cartesian and say: *L'esprit n'a pas besoin d'aucun lieu, ni ne dépend d'aucune chose matérielle*. And perhaps this after all is all that the most moderate-minded physiologist of to-day asks us to do. But I shall quote a few instances of physiological methodology, not because there is anything unique about them, but because they exhibit in an explicit form the assumptions usually implicit in such work.

'Dans ces paralysies de la latéralité des deux yeux, les mouvements de convergence sont conservés, même quand l'oculogyrie est impossible des deux côtés; donc, les droits internes incapables de se contracter pour l'oculogyrie latérale se contractent pour la convergence. Ceci prouve, une fois de plus, que le même muscle et le même nerf répondent à des centres différents pour des mouvements différents. L'appareil nerveux de la convergence (of the Eyes) est absolument différent de l'appareil nerveux de latéralité (the sideways movements of the eyes) quoique le droit interne et son nerf interviennent dans les deux mouvements. Seules, les lésions périphériques d'un nerf entraînent la suppression de toutes les fonctions de ce nerf—Mais les lésions plus élevées entraînent une symptomatologie différente suivant qu'elles frappent l'un ou l'autre des appareils nerveux qui aboutissent à ce nerf.'¹

¹ J. Grasset, "Bilateral Motor Action," *L'Année Psychologique*, 1905, 2. 437.

The argument is clear. The same nervous units or centre *cannot* be responsible for two operations which can be disjoined by paralysis of one of them; the nervous apparatus *must* be different; and, given the difference in function, a difference in nervous centre is inferred. The conclusion depends upon a major premiss of parallelism. No one can complain if such premisses are taken as postulates merely; but to me the conclusions seem stated too factually.

On the next page we read: "Il faut admettre un nerf rotateur de la tête," and "La conception physiologique est obligée de modifier, ici encore, la conception anatomique. Il faut admettre un nerf *suspiciens* (élevateur des deux yeux) et un nerf *despiciens* (abaisseur des deux yeux), chacun de ces deux nerfs partant des deux hémisphères." A new planet was once said to have been 'calculated into existence by heaps of algebra,' but it was seen before it was generally believed in. Should we be too refractory if we ask for *perceptions anatomiques* and not merely *conceptions anatomiques* in such cases as these?

Let me give another instance (*L'Année Psychologique*, 1905, p. 118): "Enfin en 1903, J. Toteyko et M. Stefanowska dans leur travail 'Recherches algésimétriques' (*Bulletins de l'Académie royale de Belgique*) se basent sur la non-existence de cette asymétrie normale pour conclure à l'existence d'un centre spécial pour la douleur".

Now why should the physiologist be so anxious to transfer his physiology into speculative anatomy; not regarded by him as speculative *bien entendu*, but more real than the facts from which he partially infers it? Why should such a saying as Binet's, *viz.*, "Que la répartition des sensations en deux groupes ayant des valeurs objectives différentes est arbitraire," fall upon such deaf ears? In making experiments on school-children, defective in some ordinary mental function, I have been repeatedly asked by teachers why such is the case; and the curious and relevant thing is that, after I have translated the trouble in terms of nerves, centres, and nervous paths, though I am conscious all the while that I am passing away from what is known to what is guessed, the teacher takes the inference for the fact, thinks back comfortably to the function, and is satisfied. There is something particularly restful to people of to-day in a mechanical explanation, by which I mean an explanation which pictures material things in spatial groupings working by pushes and pulls. I do not think it will be denied that the above instances are typical of the usual methodological procedure, but it is necessary, perhaps, to quote once more to show that it is

sometimes regarded as doubtful even by physiologists themselves.

Let me give one more quotation, this time from a valuable article by Van Gehuchten on the "Anatomie du Système nerveux" (*L'Année Psychologique*, 1905, p. 345):—

"Il est curieux de faire ressortir ces tentatives faites par Bethe pour conclure de la valeur physiologique d'un organe à sa constitution anatomique, alors qu'il s'élève avec tant d'énergie contre ceux qui voudraient déduire la fonction d'un organe de sa constitution anatomique." Then with an unusual admission for a physiologist, the writer continues: "Les deux procédés nous paraissent également défectueux; mais, à tout prendre, le second nous paraît cependant de loin supérieur au premier".

Perhaps I may be allowed at first to express my criticism in a general methodological way. The usual argument runs thus: the same nerve does different things, that is, performs different functions, and hence we conclude that it leads to or from different nerve centres. But surely the facts given do not prove the conclusion reached except on the assumption that the same part of the cortex cannot perform more than one function. Anatomical evidence is required that the nerve does lead to two different centres, not a mere inference from physiology plus a highly localised form of the parallelistic hypothesis. As far as the writer shows, the apparatus is the same: it is a queer conclusion from this that *l'appareil nerveux est absolument différent*. But, it may be argued, different nervous centres have been found to fulfil different functions; we have evidence of such separation both anatomical and physiological; are we not entitled to argue by analogy that, where we find the functions to be different, we have a good presumption that their anatomical centres will be found distinct? Yes, I think there is enough presumption to make it worth while to settle the question anatomically by direct methods, but I doubt the validity of mere inference from one to the other. And even in the cases in which an anatomical centre is shown to be directly connected with some particular function, the argument has mostly been content with the logical method of agreement, sometimes supplemented roughly with the method of difference. I should be inclined to contend that a more rigorous method should be applied, *viz.*, the method of concomitant variations, which has been improved by mathematicians and set out in various correlation formulæ. We need to know whether so much centre is positively correlated with so much physiological or psychological function before we are entitled to a firm conclusion.

Our anatomical series and our physiological series must be separately estimated and measured before firm ground is reached.

Mere correlation, however, is not enough, reciprocal activity must be shown also: the function must be shown to produce anatomical variation and the anatomical variation must be shown to produce difference in function. This sort of correspondence is now being sought for all over the field of that backward science—as a physiologist might say—of psychology. In other words our causes must be shown to be statistically adequate to our effects and *vice versâ*. I ask physiologists whether rigorous work along these lines will not show outstanding difficulties which, indeed, I seem to remember in one or two cases have been solved by a denial of parallelism altogether and a frank resort to interactionism. They are, if my memory serves me correctly—I am writing a long way away from books—psychical rather than physiological difficulties, but they are still germane to my principal issue. But, as a difficulty arises at this point, may I crave a little space to try to remove it?

We have found an effort made to get easier thinking by tracing back our physiological questions to questions of anatomy. We cannot, of course, entirely reduce them to questions of anatomy, but if we can only find some distinguishable neurological place or structure which subserves, and alone subserves every function, we know we are well on the way to transmute physiology into anatomy—in a way parallel to the attempted reduction of chemistry to physics.

Now human physiology is a study of the functions of the human organism, considered, not as a unit, but as an assembly of different structures subserving different activities or receptivities. Taken in this broad sense, there is no place for a science of psychology at all, it becomes part of physiology—the unity of mind can be politely left to the metaphysician with a contemptuous *arrière pensée* that there is nothing in it. But speaking more strictly, is this proceeding legitimate? Physiological process is not thought process, is not even sensational process; every sensation doubtless has a physiological side; it produces certain changes in the nervous sensorium. But this change amounts to sense-impression only, it must be conscious or we must be conscious before it becomes sensation. I am not going to talk in a Dubois-Reymondian strain about impassable gulfs between nervous vibration and mental activity. But I think it fair to ask the physiologist whether, for merely practical purposes, for the necessary division of labour in these specialistic times, it may not be

wise to leave the psychologist as such to decide about mental process, provided he does not dictate to the former about anatomy and physiology. Yes, he answers both by his logic and his researches, but I can find out so much more about the nervous system itself if I am allowed to argue backwards and forwards from sensation and thought to anatomical structure and the movements which physiology takes note of and *vice versâ*. Well, if that is so, and I am not prepared at this moment to deny it, we must ask him to take his psychology from modern psychologists, as they at least try to take their anatomy from modern physiologists. Of course he *does*, would be the *prima facie* indignant answer. Passing by the admission that the physiologist learns to advance his science by utilising the data of the psychologist—an admission which from the typical man of science you would never get directly—let me ask what sort of psychology the neurologist accepts. I am speaking typically and do not wish to be understood as including all neurologists, although I think specification would be both presumptuous and invidious.

V. THE UNDUE SIMPLICITY OF THE PRESENT PHYSIOLOGICAL AND ANATOMICAL SCHEMATA.

It is not enough, even if I have been successful in showing methodological defects in the typical physiologist's position, to confine my argument to dialectic victories—such victories are easy, and as barren as they are easy.

The subtleties and distinctions of thought are always passing beyond practice, and, for my own part, I have never reached any psychological conclusion experimentally which I could not show might be false, even on my own facts.

Hence one of the causes of the dislike which the typical researcher bears to the metaphysician. Consequently I do not wish to press distinctions and difficulties of a purely metaphysical type. I shall try always to argue from some accepted body of knowledge or some philosophy accepted by science itself.

I suppose there are few psychologists, especially those who have approached psychology through the natural sciences, who did not, at least in their earlier years, make a kind of speculative physiological and anatomical basis for their psychological happenings. We think of nervous substance as consisting of cells and fibres; what more natural than to suppose that the cells were concerned in the more substantive mental states—the definite sensations, and that the fibres subserved the very natural purpose of linking up one sensation with another;

the perception of a thing was something which happened as it were all along the same level; it meant merely the association of some sensations with others.

If images or ideas (two very different things often slumped together) were necessary to complete perception, no real difficulty was introduced, for images were due to fainter discharges from sensational cells, or, if not, had, higher up, a separate cellular apparatus of their own. With an associationist psychology and a philosophy which made thought relationships a replica of the relationships of the material universe, there was a charming appropriateness about the analogical anatomy which, even to this day, makes associationist psychology popular in physiological practice. One had, will he nill he, to become adapted to the universe: the failures in life were the original people, the successes were those who exposed themselves most passively to the onslaught of the atoms. With such a philosophy the success of the cell-fibre associationist school was certain. Such a scheme has value too in educational practice; much educational work can undoubtedly find an adequate basis in a scheme of this kind. A child learns to know the names of things and learns to read by a process which would quite adequately be represented by the older types of physiological association. And, above all, the progress in general discipline and habit can fitly be represented by such schemata—the burnt-child-dreading-the-fire episode being a case in point. Thus is the child-mind no longer exactly a Lockian *tabula rasa*, but an agglomeration of nerves, cells and fibres fit for the impress of carefully prepared educational environment. With such educational schemes and such minds the power of the teacher appeared to be almost unlimited. The scheme was not quite complete, pleasure and pain had to come in to keep the line of development on the right path and to see that the inner relations were adaptively correspondent to the outer ones. But where were pleasure and pain to be placed in this coherent scheme? Apparently there were no pain cells or pleasure cells, at least where ideas were concerned. The vibrations, if there were any, and there probably were for pleasure—we know that a dog wags his tail for joy—must be such as to influence all cells and fibres or nearly all, for there are few neutral mental states, even if any, which are untinted by pleasure or pain. Well, pleasure was a vigorous vibration, pain, if a vibration at all, was such a small one, that it argued that the cells or organs subserving the function were about played out—pleasure meant success (a very different thing from success meant pleasure) and pain failure to act efficiently. Here the practical man objected that pain

is often stimulating—the schoolmaster, as was to be expected, took a hand on this side; and, on the whole, it was felt that pleasure and pain as the mainsprings of action were about the weakest links in the whole sensationist-associationist-physiologist explanation of mental life.

Now, I, for one, do not wish to deny that this scheme had, and still has, a value for elementary expository purposes—even the pleasure-pain scheme can group many of our well-known experiences into an intelligible conceptual whole; it can explain the development of much of our knowledge, and, by comparing nerves to the beds of rivers, make us see how habits must be formed.

But I am going to enter a plea that this scheme is likely to be obstructive to psychology. I say it may be obstructive. I do not wish to discuss the general question, *viz.*, whether hypotheses must or must not always tend to become obstructive; for I am quite willing to accept them, both for purposes of understanding things myself and for expository purposes; so that my opposition in this particular case is not based on the general rejection of explanatory conceptions.

If one works much among students and teachers who have read physiological psychology, one hears implicitly and explicitly much that makes the judicious grieve. A candid writer like Mr. McDougall may tell them flatly that psychology is much more advanced than neurology, and that much of the latter is hypothetical, being indeed derived analogically from the psychology of supposed corresponding mental events. *Cela ne fait rien*. I receive some astounding information from time to time, *viz.*, that animals cannot feel and cannot adjust themselves to circumstances or adjust circumstances to themselves (the verbal expression is my own) unless they have nerves; that unless we have differentiated sense-organs directly stimulated we can have no sensations; that such and such a process cannot occur mentally because there is no neurological basis for it, or because the neurological basis together with some hypothesis such as that, for example, that only forward conduction is possible, renders such a process impossible, whatever introspection may declare. Nor do I think that these views are so absurd, on the knowledge presented, as they may seem to those who are well aware that neurology can give adequate parallels only to the very simplest of mental happenings, if to those. An American writer, himself an able neurologist, has criticised the present fashion of writing text-books of psychology in two unrelated sections: (1) A Description of the Nervous System (mostly inadequate and misleading); (2) General

Psychology. He has pointed out that it is a condition of things unique in scientific text-books that one part has almost nothing to do with the other, so far as the student can see. Perhaps, however, this is because the cross references are so difficult and so hypothetical, and, from the physiological point of view, so scanty. For the neurological schemata leave out most of that which we now regard as psychologically fundamental. We are fairly agreed, though on the exact definition of the term we are not yet agreed, that conation is fundamental in mental life—that, without inner tendencies striving to realise themselves, there would be no mental life as we know it—that this striving is absolutely prior both to ideas and to the sensations from the external world by which ideas are said by some to be wholly derived—that this striving makes our most vigorous mental life a continuous solution of problems, either of action or of thought, into which sensations, perceptions, conceptions and reasonings, pleasure and pain, fear and anger, hope and despair enter as constituent and modifying parts, deriving their value, and even their very existence, from the conation, and not calling it forth by an accidentally painful or pleasant sensation as the English classical school had it.

What does neurology say to this? What working scheme of nerve-cells and fibres is adequate to such a complexity of process?

Again, we know that in real life we do not go on doing over and over again what we have already done before; the nervous channels with deepening beds that we hear so much about show us why we should, but we do not. We do not indefinitely repeat our mistakes, though on a merely associative scheme we ought to. We do not indefinitely continue to do the things we can do well and get better and better at them. We do to some extent; but, in every progressive mental life, saturation point is soon reached for particular processes, and satisfaction is found only in proceeding on other lines. How can this kind of growth—which, by the way, is normal in mental life—be explained by the associationist theories of nerve-cells and fibres at present in vogue? And as to the solution of those mental problems where the end is seen in a vague inchoate way before we set out to particularise at all—where the whole, in very truth, exists before the parts, where associations (I wish we could get another word for the kind of altogetherness I mean; perhaps Prof. Stout's word 'complication,' used by him on the perceptual level, would do) exist before they are yet established, where the processes of thought dissociate as much as they associate, and finally the problem

is solved—each factor distinct—each factor co-operant—a jointed articulate whole—what sort of neurological scheme, neurons and synapses, conductions and resistances, would be adequate to this?

VI. EVOLUTION AND PHYSIOLOGICAL PSYCHOLOGY.

Mr. Herbert Spencer, in one of his essays, instances “ five men, occupied with mathematics and mathematical physics, in whose minds the formula of evolution raised no answering conception”. He might have added to the number had he included metaphysics and ethics in the list of reprobated studies, he might even have included himself; for, as is well known among philosophers, his Absolute Ethics and his Transfigured Realism are both static and unevolutionary. For complete adaptation in the Spencerian sense means the end of struggle, means the extinction of desire, means the decay and death of emotion, means, indeed, an intellectual Nirvana, for in time we should all be so well adapted and all so much alike that *Bewusstsein überhaupt* would cease to be a guess and become a well-founded generalisation from the facts. We should seem as if we were merged into an Absolute with no more difficulties and contradictions to swallow.

But this Spencerism is dead, why attack it? Well, I am not sure it is so dead, and if it is, there are curious survivals. A most recent work treats feeling as if it were merely an undeveloped kind of sensation, something in process of becoming, which, in a somewhat theological way, finds itself only in losing itself,—it becomes distinguishable and differentiated sensation and ceases to exist as feeling. One would rather suppose that anoetic sentience (Prof. Stout's expression) does not cease to be intellectual because it is not yet noetic; and suffused with feeling as we know it to be, yet we do not regard it as wholly feeling because it is so largely compounded with it. Some such view is perhaps almost inevitable to those for whom mental life is a sensation-complex, and it need only detain us in so far as it shows that Spencerism is not yet dead. The truth within it is that the new does often begin vaguely and gets specialised, differentiated, and at the same time articulated as it grows, becoming, at the same time, less emotional.

Now, on the schemata of physiological psychology as usually presented, I find great difficulty in accounting for the new at all, and this brings me to the difficulty which I should express by speaking of physiological psychology as non-evolutionary in doctrine.

I do not propose to worry the vexed question of the relative priority of structure and of function. I am parallelist enough to hope that we shall find a nervous correlate for all and every mental function, but we shall miss most of them if we persist in regarding mental and nervous change as something initiated always from without.

As long as mental life was only thought to be compounded of sensations and derived images the scheme worked very fairly well; but what are we going to do with the new factor of imageless thought, of the interpretation of sensation, nay, even those modifications of it which cannot be traced back to sensations? Perhaps there are interpretative cells somewhere, neurons of meaning which, by associating with cells subserving sensational processes, give us perceptions. If necessary, by all means let us postulate them; there will be difficulties, I know, physiological and anatomical; but do not let us falsify perception so as to bring it within our present physiological scheme of sensations and images. Moreover, association itself is not the simple thing we once thought it to be. Recent work on associations justifies the view that they cannot be wholly explained by the time, place, and similarity factors of the classical school. It is the *donnée*, the mental *milieu* of the moment, the interests, or the conations of the growing mind, which determine the lines of profitable association. I do not deny that there are other associations specially produced, as images often are, for purposes of psychological observations; but I claim that they are the non-purposive, mechanical and often obstructive associations which lack relevance. Now how can we explain this purposiveness physiologically? Where does it start from? Not, certainly, one would think, from sensations and images. If we cannot get it into our anatomical scheme, the omission will have a backstroke on our psychology which will be non-evolutionary and obstructive, however much we may warn students that our physiology only aims to show the easy things first. Again, from an evolutionary standpoint, we are perhaps more concerned with dissociation than with association.

Living creatures which do not draw their knowledge from five senses, have percepts, at least they act as if they had. How does their more unitary and distinctionless apprehension become the sensational and conceptual apprehension which we know? This is the main problem of physiological psychology from an evolutionary standpoint.

VII. PHYSIOLOGICAL OR PSYCHOLOGICAL METHODS.

I do not wish, as I said before, to take any side on the question whether structure or function varies first—most parallelists would have no doubt that structure does. “How can one think a thing which one has no appropriate structure to think with?” such a parallelist would say—a very forcible argument. And as I, too, hope for nervous correlates for all psychical events I shall admit this argument without discussion. I shall ask a simpler question than is involved in the usual discussion of structure *versus* function. I shall ask merely which of the two is more accessible, from which end can we best work. And which is the subtler way of proceeding? Do anatomical and physiological variations, even supposing we had clear vision of them in every human brain, show the variations which, psychologically, we can grasp at once, provided we approach them from the functional and mental side?

Since this paper was written I came, curiously enough, upon an identical argument in Prof. Claparède's paper on Hypnotism in the *Archives de Psychologie* for July, 1909, page 379.

Speaking of the physiological and psychological theories of hypnotism, he says :—

“Les théories dites psychologiques ont cependant le grand avantage de nuancer infiniment plus les détails des explications, et de permettre une analyse plus fine et plus systématisée, tandis que, dans le langage objectif, quand on a parlé d'inhibition corticale, de stagnation de neurocymes ou de ruptures de synapses, on a à peu près tout dit. Il manque encore trop de pièces aux magasins de la physiologie cérébrale ! Tenter aujourd'hui de reconstruire l'hypnose en concepts physiologiques est peut-être une entreprise aussi chimérique que de vouloir reproduire les délicates sculptures du Louvre avec le matériel grossier d'une boîte de construction pour enfants. Pensée consolante pour les éminents architectes qui s'y sont essayés en vain ; c'est à la nature des circonstances non à leur inhabileté qu'est dû leur échec !”

The facts of actual research answer the question for us. The argument runs back from function to structure much more frequently than from structure to function. And therapeutical methods answer for us too and give the same answer. Whatever view as to the anatomical seat of mental defects we may hold, and whatever physiological conception of them we may deem to be the correct one, it is in the main by psychological methods that we endeavour to effect improvement. To minister to a mind diseased means the employment of

mental methods, and the pedagogy of the future will not be medico-pedagogy, as it is called in France, but psychological-pedagogy; indeed, the science is already in rapid growth. And this is as true of the pedagogy of defectives as it is of that of more normal children.

VIII. THE VALUE OF INDIRECT OR PHYSIOLOGICAL METHOD OF PSYCHOLOGY ITSELF.

The whole purpose of this article has been missed if it is concluded therefrom that I have any wish to discourage researches into the physiology and anatomy of mental processes. I have no wish to support a theory of interactionism, the conclusions to which it leads philosophically do not appeal to me, though I freely admit that, methodologically, researches in physiological psychology are actually carried out on that basis, unless we choose to consider the correspondences that we actually find as implying no casual relationships. But, if we narrowed down the issues to those of actual psychological discovery made by anatomical or physiological means, we should find a condition of the following kind involved. I am indebted to Prof. Stout's *Analytic Psychology* for the suggestion.

If we know a psychical fact '*a*' to be connected with a physiological or anatomical fact '*a*' and another psychical fact '*β*' to be connected with a physiological or anatomical fact '*b*'; and if we further discover '*a*' to be connected with '*b*,' before we know '*a*' to be connected with '*β*,' we have actually discovered something which may turn out to be of psychological value. There is just one *caveat*. It is probable that we may have to be content with less than these invariable correspondences. The one-to-one correlations which science sets out, or used to set out, to find are very rare in Nature. It is probable that the most we may hope for in the future will be a high degree of positive correlation between series rather than between individual events, and this will probably be true in all sciences, and not only of physiological psychology. But this consideration may take us in a highly disputable realm, with the substitution of the terms 'generalisation' and 'hypothesis' for the misplaced term 'law,' and will probably land us in a pluralistic universe whose correspondences are by no means invariable—a realm which I do not propose, to-day, to enter.

IV.—THE HUMANIST THEORY OF VALUE: A CRITICISM.

BY OLIVER C. QUICK.

IT is by this time the merest platitude that one of the subtlest dangers to philosophical reasoning lies in the ambiguity of simple words. The more commonly a word is used in everyday life the more liable to misunderstanding is its use in precise argument and the more careful the definition it demands. Pragmatists and humanists have now been occupied for some years in proving that truth is a species of value, and in so doing they have laid insistent stress on the value all truths have for our life. How far, however, a general admission that all actual truths are valuable can be held to prove the humanist theory of truth, is a problem which has not yet received adequate discussion; and it is probable that the omission may have been responsible for some misunderstanding in the course of controversy. Be that as it may, it is clear that no satisfactory judgment can be formed upon the internal coherence of the humanist position while the meaning of the term value remains ambiguous or obscure; and it is the purpose of this article to suggest that the time has come when humanism might with advantage pause in developing its theory of truth in order to explain more precisely its use of the term value. It is conceivable that once again there is some lurking misconception as to the meaning of the simplest term in the discussion.

Since no precise definition of value has as yet been offered either by pragmatists or humanists, it may perhaps serve the purpose of inquiry to start with a rough description of the most obvious meanings of the word and then consider what conclusions may be drawn therefrom as to its use or abuse by the new theory of truth.

In its primary sense the term value seems to stand for the idea of worth or importance, *ἀπλῶς εἰρημένον*, i.e. for goodness in general with special reference to its experience by and relation to a mind. It is in this "absolute" sense that Kant conceives the "value" of the individual, in his famous maxim

that every human being should be treated as an end in himself. Thus too with a psychological application it seems possible (superficially at any rate) to distinguish the category of value from the category of reality as that category through which the mind expresses its judgments of "goodness" as distinct from those of mere "being". This however is a highly controversial distinction which will be referred to again later, and is only here mentioned in order to avoid confusion between this wide use of the term and its secondary meaning.

This latter is the more usual one, and in it "value" stands for worth or goodness for some particular purpose of the mind. When we call a thing "valuable" we generally mean that it is useful for some end we desire to achieve. A coin's value, for instance, may be said to be or to represent its utility as a means to the interchange of commodities. In this sense "value" may be defined as that property of an instrument which constitutes its utility in attaining the purpose to which its use is directed.

In which of these two senses do Pragmatism and Humanism intend their use of the word in connexion with truth to be received? Chiefly, at any rate, in the second and narrower. For Humanism is usually both attacked and defended as that philosophy which identifies truth with utility, and certainly it claims to show that the difference between truth and error is purely a difference between degrees of usefulness.¹

Accepting then, temporarily at any rate, this more usual sense of the word value, it may be not unprofitable to inquire what conclusion may be drawn as to its use or abuse in connexion with truth. At the very outset it may be noticed that a value in itself is simply nothing at all apart from the means or instrument whose utility it constitutes. It is the relation of an instrument to a purpose, and as such, to use the Aristotelian phrase, *ἐν ἐλαχίστοις δύσιν*. It is indeed obvious that the value of an instrument cannot be identified with the instrument itself, and that if, for instance, benevo-

¹ More accurately, perhaps, between utility and active inutility or obstructiveness; between "forwarding and baffling an interest" or "satisfying and thwarting a purpose" (Dr. Schiller, *Studies in Humanism*, p. 6). This alteration in expression however makes no practical difference. All errors are "truth-claims" ("a claim to truth is involved in every assertion as such," *l. c.*, p. 145) and they must possess a certain degree of utility to have been formulated at all. These erroneous judgments are only bad and useless because others are more useful; hence their "obstructiveness" being purely relative, is only a low degree of utility looked at from the negative point of view.

lence is valuable in promoting the life of a community, benevolence itself must be something other than the value which is its utility in social life. Nothing, in short, which *has* value, can itself *be* value. Humanism on the other hand seems to assert sometimes that truth is that which has value, sometimes that truth is itself value. Thus for instance on page 7 of *Studies in Humanism* is stated the definition that truths are logical values, while on page 8 we are told that "all real truths must have shown themselves to be useful". Perhaps, therefore, it may serve to clear the ground if we start by asking the initial question, "In what sense can truth be said in humanist theory both to be and to have value?"

The answer is as obvious as the question. There is an elementary distinction to be made between "truth" as general idea and *a* truth or particular judgment which is true. Every truth or true judgment is a valuable instrument whereby we attain a purpose and its truth (*i.e.*, abstract truth) is its value. In the sphere of logic our instruments are all particular judgments or "truth-claims". We find out by a process of testing or "verification" which judgments are the more useful for our purposes and we call the relatively useful "true" and the relatively useless "false". For the humanist then, speaking *κατὰ τὸν ἀκριβῆ λόγον*, truth itself (*i.e.*, the common property of particular truths in virtue of which they are called true) is not valuable, but value; while it is *a* truth or true judgment which *has* value and *is* valuable. In this sense it is maintained that all truths have value while truth in general is defined as itself a kind of value.

The emphasis of this distinction has at any rate the merit of bringing out clearly the difference between a method of determining what judgments are truths and what errors, and a theory of what truth and error themselves are. In more technical language, the difference is that between logical method and epistemological theory, and here is displayed a joint in the armour, which may be the most vulnerable point of the new philosophic system. For the sake of terminological clearness (even at the cost of a certain sacrifice of accuracy due to the over-lapping of the terms) it is convenient to restrict the term pragmatism to the logical method which asserts that the truth of all judgments is to be tested by the value they are found to possess, and to reserve the term humanism for the epistemological theory that truth itself is a kind of value. The possibility of this distinction may indeed be admitted by Humanism,¹ but it has hardly received the

¹ The distinction, as is natural, has not been clearly brought out in Dr. Schiller's books, since in his view it possesses no value. It does not cor-

attention which its importance demands. After all, an instrument's peculiar value is only the result or expression of its peculiar nature. It is difference in nature which causes difference in value, and it may be that the difference in value of true and false judgments refers back to and is caused by a difference in nature of true and false judgments *quâ* true and false. There is therefore no validity in the inference which Humanism sometimes tends to make,¹ from the datum that the value of judgments varies as their truth to the conclusion that the truth of judgments is their value. To take an example from another subject-matter: Given that for every change of mental condition there is a corresponding physiological change in the brain, it does not follow that mental change is nothing more than a physiological phenomenon; though it is valid to argue from the latter to the former and even ultimately to infer that one is the cause of the other. Another illustration is provided by psychology. Given that the satisfaction of desire is accompanied by a proportionate pleasure it does not follow that the pleasure is the satisfaction of the desire; for then (since every desire is for its own satisfaction) there follows the further inference that the mind can desire nothing but its own pleasure. And yet in both illustrations taken, the false inference has been made, by materialism in the one case, and psychological hedonism in the other; so that there must be considerable plausibility in this kind of paralogism. Is it not possible that the difference between "true" and "false" causes and shows itself in difference of value on somewhat the same logical principle as mental change causes and shows itself in cerebral change or degrees of satisfied desire in degrees of pleasure? Does humanistic theory after all follow from pragmatic method?

Humanism would seem to have two reasons for maintaining that it does. (1) It may be contended that, once the prag-

respond to the distinction drawn between Pragmatism and Humanism in *Studies in Hum.*, ch. i., for that is between an epistemology and a wider philosophic orientation, which is yet not a metaphysic (see esp. p. 16). Pragmatism seems to be used indifferently for a method of *testing* truths by their consequences, *i.e.*, the value they are found to have (p. 5) and a theory which defines truth itself as logical value (p. 7). The phrase "method of determining the nature of truth" (p. 5) is ambiguous.

¹ *E.g. Studies in Humanism*, p. 6: "If therefore the consequences of an assertion turn out to be in this way 'good,' it is valuable for our purposes and, provisionally at least, establishes itself as 'true'; if they are bad we reject it as useless and account it 'false' and search for something that suits our purposes better. . . . Thus the predicates 'true' and 'false' are *nothing* in the end *but* indications of logical value." (*Italics mine.*)

matic method is admitted, there is no further value in a sharp distinction between the nature of truth and the method by which it is recognised and tested in particular truth-claims. Hence the distinction cannot pragmatically be maintained. (2) There is the further argument that the distinction leaves the nature of truth and error unknowable and so results in an entirely avoidable and gratuitous scepticism.

These arguments require careful consideration. The only valid answer to (1) is that it seems clearly wrong upon the facts. At first sight it appears psychologically indisputable that many of our beliefs only have value for our lives in so far as they are held to be other than valuations and the truth which they claim other than value. This is perhaps most obviously true of religious beliefs. In the case of nearly all devout people it is just because their belief in God is held to express truth irrespective of its value for life¹ that that same belief has such enormous value for their life. It is just because they believe in a "next world" as a reality irrespective of its value for this, that they are able to shape their lives in this world by their belief in the world to come. And this truth is quite unaffected by the fact that men form their religious beliefs to suit their spiritual needs (*i.e.* by a pragmatic method) and verify them by finding out if they "work". For this actual process of verification (at least as it at present takes place) presupposes the nature of the truth-claim which it verifies to be other than a value-claim. And this is a vital point. For what does not work so long as we regard truth as other than value might work if we accepted the definition of truth as value, since one of the present conditions of its working, *viz.* that it should not be inconsistent with our belief that truth is other than value, would in that case be removed.

The same principle may be applied to our belief in historic fact. The whole value of historic fact-truths for life, whether or not they are *established* pragmatically, comes from our belief in them as truths apart from their value. Say their truth is value, and you destroy the value of the truths. Further, in the case of historic truth it is particularly obvious that at present one of the conditions of a judgment on fact "working" and "becoming true" is that it should prove consistent with the popular and scientific belief in the "inde-

¹ This does not of course mean that any other belief would do just as well, but that, granted it is the value of the belief which makes it held as "true," its value depends on its being held true whether it is valuable or not.

pendence"¹ of past fact, *i.e.*, the belief that historic fact as such happened once for all and remains entirely unaltered by our knowing or ignorance of it.² In other words, historic truths, as matters now stand, if they are to establish their claim must be found to square with the belief that their truth, as representing fact, is other than their value; for the value of a fact or truth is clearly altogether dependent on our knowledge of it. And this belief seems vital both to popular and scientific conceptions of history. No doubt to the mind embarking on any historic inquiry this doctrine of the "independence" of fact can only embody itself in a belief that the events about which it is to inquire happened *either* in one way or in some other, and it would be ridiculous to contend that such a belief—depending as it must on a state of subjective ignorance—could yield any canon for guiding historic search. Such belief in the independence of fact does not provide any guide for searching, but it does provide the motive for search and a condition of the value of the discovery when it is made and verified. Take away from the scientific historian the belief that something happened which he can at most only discover and never alter by discovering, and what motive is left for his search, what justification for his methods, and what value for his conclusions? Clearly this difficulty is quite unaffected by the suggestion that the historian's task is to decide which of several stories is the most probable. For "most probable" means "most likely to have happened," and the inalterability of what happened is implied for him in the use of the word "probable," whether or not he conceives himself able to arrive at absolute truth in the matter. A belief then that historic truth is other than a value is essential to the value of historic beliefs and is postulated by the methods of historic criticism. It might even justifiably be asserted that the historic conclusions now reached by the

¹The word "independent" is ambiguous but almost inevitable. It is not here used in the sense of "out of all possible relation to human knowing" but in the sense of "unalterable by knowledge". In the words of Dr. Schiller "Independent must mean at least that the relation to us into which a truth" (or a fact) "must enter when it is known does not affect its nature" ("The Rationalistic Conception of Truth," in the *Proceedings of the Aristotelian Society*, 1909, p. 87). Why Dr. Schiller should proceed to argue on the next page that "if Truth is" (in this sense) "essentially independent of a knower, human or otherwise, verification may be dispensed with," I cannot understand. Even if truth is in this sense independent, it does not follow that *we can recognise* truth without verification.

²To object "but this sort of 'fact' is not knowable by us" begs the question, for the belief claims that all fact is *of the same sort* and remains the same whether known by us or not.

pragmatic method assume the falsehood of the humanist theory of truth, since they must square with the belief that truth is other than value.

A purely descriptive analysis, therefore, of the implications of religious and historic beliefs and the methods by which they are established seems sufficient to show that to maintain a clear distinction between the nature of truth itself and its "consequences" by which it is recognised and tested in particular "truth-claims" is of all-important practical value. And here perhaps it is just worth while to notice in passing a curious analogy between humanism in epistemology and hedonism in ethics. Hedonism having defined the good as pleasure, is often constrained to add as a practical limitation that the best way to attain pleasure on the whole is to aim at something else. So Humanism, having defined truth as value, seems bound to admit that the best way to get the full value out of truth is to believe that it is something else. Both systems seem to transport us into a kind of looking-glass world where we must turn our backs on any object we desire to achieve.

(2) Moreover it seems at least doubtful whether from a humanistic point of view it does follow that to insist in the sense indicated on truth itself "transcending" or being "independent" of the process by which it is verified and established must lead to utter scepticism. Even if such a conclusion appeared inevitable it would ill become Humanism to purchase logical consistency at the expense of ignoring the real needs of the human personality. But a very little reflexion seems to show that the sceptical conclusion only follows if the validity of the pragmatic method be denied. For all that is required to avoid it is the postulate that what we find best to suit our needs does ultimately represent something of real and eternal truth. So long as we make this assumption (our right to which only a denial of pragmatic method can dispute) the impossibility of attaining absolute truth can never drive us into absolute scepticism; for we can always argue from the value to the at any rate partial and representative truth of our beliefs.¹ Scepticism will thus be left to the pessimist. No doubt such a very tentative and halting pragmatism must leave the nature of truth and error

¹The application of this principle to religious belief is obvious, see Tyrrell, *Lex Orandi*, pp. 57, 58 and *passim*. The value of historic truths at first sight does no doubt appear to depend on a claim to absolute truth or nothing, but this ceases to be so when the metaphysical assumptions (e.g., the reality of time) implicit in the simplest statement of fact are fully realised.

as such undefined, but this need not be an insuperable objection so long as the argument from the value to the truth of particular judgments is admitted; for then we are not left wholly powerless to distinguish truths from errors. Nor is this admission tantamount to an identification of truth and value; for no small part of the value of those "claims" which by their value establish themselves as true, will be derived from the fact that they square with our belief that truth in itself is other than a value. After all "indefinable" is not quite the same thing as "meaningless". The apparent indefinability of moral good, for instance, is not generally held to render all moral discrimination between good and evil meaningless and impossible.

To discuss further, however, the possibility of rival theories of truth based upon the pragmatic method is outside the present purpose. The question to be answered is, granted that the foregoing criticism of Humanism is in itself coherent, has it rightly apprehended the meaning of the humanist definition of truth as value? It should always be remembered that Humanism never defined truth as value in general but as a specific kind of value, *viz.*, logical, and it may be pertinently argued on the humanist side that such criticisms as the above on the nature of the value possessed by truth in certain spheres of thought fail to distinguish logical value from other different species, especially moral.¹ Does not the whole plausibility of these arguments which seek to prove that truth if it is to have value must itself be other than value, really rest on a confusion between logical and moral values? Our religious and historic beliefs no doubt cease to have *moral* value for life unless their truth or *logical* value is held to be in a sense independent² of the moral and can be verified to some extent at any rate apart from it: but then Humanism never contended that logical value ought to be *proved* by moral.³ As the greatest of all logicians insisted, οὐκ ἔστι μετα-

¹ "Thus the predicates 'true' and 'false' are . . . indications of *logical* value, and as values *akin to* and comparable with the values predicated in ethical and æsthetical judgments. . . . Of course the *special nature* of the testing depends on the subject-matter" (*Studies in Hum.*, p. 6). (Italics mine.)

² "If we insist in preserving the word (independence) . . . it must, at least, be interpreted pragmatically as a term which discriminates certain behaviours, which distinguishes certain valuations within the cognitive process" (*Stud. in Hum.*, p. 182).

³ It is not quite clear *how far* Dr. Schiller wishes this principle to be applied; cf., e.g., *Stud. in Hum.*, p. 369. "As against all such attempts" (on the part of rationalistic monism) "we must hold fast to the principle that the *truest* religion is that which issues in and fosters the *best* life." (Italics mine.) Of course it would be absurd in an

πάντα δείξαι. All that is really required to satisfy scientific and popular belief in the independence, *e.g.*, of historic truth is the clear distinction of its logical from its moral value. The most rigid principles of "truth for truth's sake" may thus in practice be upheld, and the value of scientific methods and conclusions is amply justified when once it is recognised as strictly logical and independent of their bearing upon morals. Moreover, it may now be urged, there *is* danger of scepticism if truth is held in any sense to "transcend" the process by which it is recognised and verified in particular truth-claims. For in proportion as we assert that truth in itself is other than value while admitting that it is validly proved in particular cases by the value which it is found to possess, the validity of the argument from value to truth becomes itself incapable of *logical* verification and rests entirely on an optimistic or moral assumption; though of course Humanism is the last philosophy to contend that our "arbitrary" choice of optimism invalidates the conclusions we derive from it.

Such a defence of the humanist position may not be entirely conclusive, but it seems undeniable that the insistence on the distinctive character of logical value represents Humanism in quite a fresh aspect which has so far received too little consideration from its critics. A strict analysis, however, of the use of terms is necessary before the legitimacy of this defence can be admitted. If "value" means "utility" then a specifically logical value must imply a specifically logical purpose: for utilities can only differ in kind in relation to different purposes. What then is this distinctively logical purpose? Humanism has been so occupied in treating logic as a means to human ends in general that all too little has been heard of it. If there be any such end at all, it must in some sense be "knowledge," *i.e.*, the attainment of truth, whether truth be identified with a correspondence, a coherence, a harmonised experience, or any other of the definitions which have been put forward.

Here then, if the humanist definition of truth is to stand, since "utility" can only be predicated of means and not of ends as such, the strict identification of "value" with "utility" breaks down, and reverting to the first definition suggested at the beginning of this article we must take "value" as "goodness" with special reference to its experience by the mind. Regarded subjectively this definition

article like this to raise the problem of religious truth. I only mention it throughout as a convenient illustration of the senses in which the general definition of truth as value is and is not to be understood and criticised..

comes very near to "satisfaction," nor would it seem repugnant to the humanist position, for Dr. Schiller has himself asserted that truth and error may be tested by their "*satisfying*" or "*thwarting*" a purpose.¹ There seems no warrant for the hasty conclusion that Humanism means to identify truth with utility in any sense which would exclude the conception of truth as end. If however "value" is after all to be identified with a satisfaction or satisfactoriness (to use a barbarous but more accurate term), we have only further to equate "logical" with "intellectual" (a very natural step if no figment of "pure" intellect is intended) to reach a view of truth which appears to be verbally much the same as that lately advocated by Mr. Bradley.² How then does Humanism retain the distinctive character of its theory? Not even Plato would have attempted to deny that truth was good and satisfactory, and certainly an intellectualist would be the last person to contend that it was not logical. And it is no answer to point out that Humanism alone asserts that truth consists solely in intellectual satisfaction and nothing more. The question still remains, "What does or would satisfy the intellect?" No appetite of man can be satisfied simply by satisfaction. Some further account must be given of what the appetite is *for*, and in what the satisfaction consists.

Until therefore Humanism has further expounded its use of the term value and clearly stated what it considers the exact differentia of logical value to be its right to insist on the specific character of that value is at least open to objection.

But perhaps a juster idea of the humanist use of logical value may be gained by going back to the psychological facts on which the doctrine has always professed to base itself. It was suggested at the beginning of this article that the term value in its primary sense might be taken as expressing the fundamental attitude of the mind towards goodness in general. It is admittedly in a psychological doctrine of the ultimate character of the "value-attitude" of the mind (as distinct from the mere "fact attitude") that the roots of the humanist philosophy really lie. It has pointed out that our æsthetic, ethical and directly sensational judgments are all expressions of the fundamental value-attitude in specifically different relations;³ that is to say that the concepts of fair and foul, right and wrong, pleasure and pain, which such judgments predicate are in their essence specifically different

¹ *Stud. in Hum.*, p. 6.

² *MIND*, Oct., 1909, *cf.* esp. p. 490.

³ *Cf.* esp. *Hum.*, pp. 162, 163.

value-attitudes of the mind, the function of the judgment being in each case essentially a valuation. Ought we not to regard our logical judgments (*i.e.*, those which predicate "true" and "false") as a parallel species of valuation and the concepts of truth and error as specific value-attitudes? Leaving on one side however the precise difference of meaning with which "value" is here used and the imperative need for a humanist definition of value, which its consideration would seem to indicate, such a doctrine appears to stand in need of much more defence, or at any rate explanation, than it has hitherto received. It may be granted that the categories of value and reality, or, psychologically speaking, the "value-" and "fact-attitudes" of the human mind are equally ultimate and so inter-connected that truth for the human mind must always contain implications of value.¹ It may be granted that the inter-dependence and inter-changeableness in actual practice of such epithets as "true," "good," "right," "pleasant," and "beautiful" should compel the attention of the epistemologist. It may be granted even that all "logical" truth-judgments have a value-aspect, since if there were literally no satisfaction or interest in making them they would never have been formulated.² But the main objection to the humanist doctrine on its psychological side arises from the concept of reality. The whole meaning of the specifically "logical" truth-judgment lies in its reference to reality as such. This Humanism has never denied, but, quite consistently, it claims to express reality itself in terms of value. Here however it seems to travel altogether beyond its psychological brief. It makes the highly disputable assumption that the category of reality, the fact-attitude of the mind, is less ultimate and fundamental than the category of value or the value-attitude. Why, it may be asked, is the attempt to express reality in terms of value any less arbitrary or confusing than the attempt to express value in terms of reality? Granted that "existence without 'appreciation,' fact without 'value,' is rather a figment of abstraction than a psychical experience";³ yet the exact converse seems equally true. The fact-attitude seems to be implied in the value-attitude at least as much as the latter in the former.

¹ It would surely take a very extreme intellectualist to deny *all* essential connexion between "truth," "good" and "right". For all satisfaction must represent itself to the mind as "good" in some sense, and it is hardly possible to deny that truth is ultimately "better" and "more right" than error.

² Cf. *Stud. in Hum.*, p. 9, "All meaning depends on purpose".

³ *Hum.*, p. 55.

Though no doubt reality for the mind is always essentially connected with "value" since it must possess some "importance" to be noticed or make an impression, *i.e.*, be experienced, still it is psychologically false to say that this importance *constitutes* the reality; for the mind is always and immediately aware that the importance is *derived* from the nature of reality as such—otherwise it completely vanishes. For importance is still a relation and *ἐν ἐλαχίστοις δύσιν*. This category of reality then being equally ultimate with that of value, is clearly presupposed in all predication and pervades all judgment and not "logical" judgment only; and so also does truth (as "claim") in virtue of its direct reference to reality as such. Indeed Humanism itself has insisted that all assertions claim truth.¹

No doubt the whole subject is far too complicated for treatment here, but in order to induce a clearer exposition of the humanist doctrine, two conclusions might be suggested on the strength of this very inadequate analysis. (1) Since truth is claimed by all judgments whatsoever, the term "logical" either does not constitute a *specific* differentia of judgments or is not applicable to truth as such. (2) Although truth is no doubt essentially and at every point connected with notions of "good" and "value," yet as distinct from all other eulogistic terms it derives its special meaning and value precisely from a reference to reality as such, *i.e.*, to reality as distinguishable from mere value.

Thus by a somewhat different road it seems possible to reach the same conclusion as before, *viz.*, that to define truth as value is to destroy the value of truth. In other words, is there not a fundamental confusion between the *nature* of truth and its *criterion* at the root of the humanist theory? No doubt as long as we admit the existence of a distinctively logical or intellectual appetite or purpose—no matter how inextricably connected with other appetites and purposes—we may and must apply the criterion of "satisfactoriness" or "value" or "consequences"; and the value of truth for all purposes cannot be too strongly insisted upon. But this does not answer the questions, what is that distinctive appetite for, what is the nature of the purpose, and wherein does its satisfaction consist? If we deny the distinctive purpose, truth is inevitably degraded to what is valuable for other purposes, and its own peculiar value inevitably vanishes altogether. "Salt is good, but if the salt have lost his savour . . ." Is it then, after all, so clear that a complete

¹ *Stud. in Hum.*, p. 145.

sympathy with the philosophic orientation of Humanism, and even an adoption of the pragmatic method, leads to an acceptance of the humanist definition of truth?

No doubt much apology is needed for the introduction of such complex and varied questions as have here been raised, where any approach to adequate treatment is clearly impossible. Such confusion and obscurity are however almost inseparable from an attempt to appreciate the central definitions of a new system of philosophy; and until the essence of Humanism is clearly understood, it seems premature for the critic to turn his attention directly to its bearing upon particular spheres of thought.

V.—DISCUSSIONS.

PHILOSOPHIC PRE-COPERNICANISM.¹

THE aim of this paper is not to review Mr. Prichard's book as a whole, but simply to examine his treatment (in chapters iv. and vi., headed respectively 'Phenomena and Things in Themselves' and 'Knowledge and Reality') of certain aspects of the problem of the *Critique*. Again attention will be directed more to the question of how far Mr. Prichard's reasoning helps to solve the difficulties raised by Kant, than to the question how far his criticisms of Kant are justified, or how far Kant may be said in spite of these criticisms to have supplied a satisfactory theory on the debated points. Mr. Prichard's attitude rather than Kant's is the central interest of this discussion.

At the opening of chapter iv. (Phenomena and Things in Themselves) Mr. Prichard quotes Kant's view that time and space are determinations or relations of things as they are perceived. Such a statement he condemns as absurd because determinations or relations can only apply to things as they are independently of perception. Recalling an example of Plato's he reminds us that if the assertion "a stick is bent in the water" proves to be the record of a delusion, we can no longer say the stick *is* bent, we say the stick looks bent, not it "is bent to us or as perceived".² Hence the rational statement of Kant's position would be that things "are spatial for our perception though not in themselves".³ Yet Kant inconsistently denies that space is an illusion. He is able to affirm this by the help "of a transition which at first sight seems harmless. In stating the fact of perception he substitutes for the assertion that things *appear so and so to us*, the assertion that things *produce appearances in us*."⁴ He thus "introduces a second reality distinct from the thing, *viz.* an appearance or phenomenon, and thereby he gains something other than the thing to which space can be attached as a real predicate".⁵ But this cannot stave off final breakdown, for phenomena are after all appearances, and it is absurd to predicate spatiality of appearance: for "an appearance being necessarily something mental, cannot possibly be said to be extended".⁶

¹ *Kant's Theory of Knowledge*. By H. A. Prichard, Fellow of Trinity College, Oxford. Clarendon Press, 1909.

² P. 72.

³ P. 73.

⁴ *Ibid.*

⁵ *Ibid.*

⁶ P. 76.

The argument is conclusive if Mr. Prichard's underlying assumptions be granted, *viz.* that in genuine knowing the mind grasps reality 'as it is,' an erroneous belief being just 'appearance,' a subjective mist which rises (how?) between the mind and its object. But does Kant concede this theory of the purpose and nature of knowledge? Does he not hold by the view that in the act of knowing the mind transforms the bare 'reality' given to it, causing the thing in itself to become phenomenal? Mr. Prichard would probably reply that such a process is not knowing. We seek to know 'the thing': if in knowing we alter it, we fail of our aim. And he would perhaps urge that Kant admitted this. For he gives to the reality before known the honourable name of the thing as it is, and to the reality as known the slighting appellation of 'appearance'. And in ordinary terminology the object of the inquirer is to know the 'thing' not 'the appearance'. But which is the 'thing' we wish to know? The thing as it is apart from us or as it is in interaction with us? Let us revise our vocabulary. Let us call the reality as apprehended (and possibly transformed) by appropriate mental process, the 'thing' or the object of knowledge. And let us dub the thing-in-itself of Kant, which is reality anterior to being known (Mr. Prichard's things as they are "whether perceived or not"¹), *ἡλγ*, the raw material of knowledge. By this transvaluation we blunt the edge of Mr. Prichard's criticism. And on this hypothesis we can read an intelligible meaning into the Kantian statement, since phenomena are no longer purely mental existences of which it is nonsense to predicate spatiality. They are on the contrary the transformed *ἡλγ* of reality, of which transformed objects spatiality may be a true attribute. Whether Kant can be made consistent with this position is of course a far more difficult problem, but it is an explanation which does not make Kant's position self-evident nonsense and allows the importance of his distinction between the first gropings and final elaborations of the cognitive process, between what is given to and what comes out of the knowledge-process. But Mr. Prichard might ask: apart from the merits or demerits of the theory thus propounded, is there any need for formulating a theory to transcend the naïvely realistic standpoint at all? It may be answered, that such a theory is imperatively called for, both to meet the fact of error with an intelligible explanation and to answer the central question raised in the *Critique*, respecting *a priori* synthetic judgments—a question which is re-stated by Mr. Prichard but nowhere in his book finds an adequate reply. That the position of the naïve realist is not free from difficulties seems to be implied by Mr. Prichard's subsequent procedure which devotes the remainder of the chapter to meeting such difficulties. "We do," Mr. Prichard admits, it may be urged, "distinguish in ordinary consciousness between

¹ P. 72.

appearance and reality.”¹ This distinction he sets himself to analyse as applied by us to the qualities of matter which he sharply distinguishes as primary and secondary. That there is something wrong in his position will appear more clearly if we reverse his order, and consider his treatment of secondary qualities first. On examination he finds that “these supposed real qualities do presuppose a percipient, and therefore cannot be qualities of things, since the qualities of a thing must exist independently of the perception of a thing”.² The conclusion appears to be that secondary qualities are within the realm of ‘appearance’ not of ‘reality’. But the clear line of distinction is blurred when we come to colour. For if colour is ‘relative to a sensitive subject’³ the primary qualities would seem infected with subjectivity too, ‘on the ground that shape is inseparable from colour’.⁴ That colour is thus relative Mr. Prichard thinks undeniable, but he is conscious of the difficulty that (even if shape is separable from colour) things look or appear coloured. Now in treating primary qualities (we shall see his argument in full directly) he concluded that the term ‘look’ presupposes the possibility of cases in which things are what they look. Yet since things are not coloured, they look what they are not. The resulting difficulty is that “just as things only look coloured, so things may only look spatial”.⁵

The possibility of this, *viz.*, the subjectivity of ‘extension,’ was considered to be disproved by the discussion of primary qualities. There it was argued that the fact of being able to brand certain impressions as ‘appearance’ implied the possibility of getting at the ‘reality’ wherewith to contrast them. The truth that things sometimes ‘look’ what they are not, can only be established on the basis that they sometimes ‘look’ what they are. Yet the colour-difficulty surely destroys this certainty. A thing may ‘look’ its ‘true’ colour, or a ‘false’ colour—while all the time it is not coloured. Similarly may we not make true and false statements about the spatial qualities of things—while all the time spatiality is not (in Mr. Prichard’s sense) ‘real’. To throw overboard as he does the ‘reality’ of secondary qualities is to destroy the common-sense criticism on which he has laid so much stress. We have been told that it is preposterous to say “the stick is bent to me”. We should say boldly with the man of common sense “it is bent”. But then the man of common sense equally boldly affirms “it is hot,” or “it is red”—‘propositions’ which are anathema to Mr. Prichard. What again of cases in which we predicate ‘is’ of the worlds of dream or fiction? Clearly then when we say ‘is’ we do not invariably assume that rigid demarcation between objective things and subjective appearance upon which Mr. Prichard builds his theory of knowledge, and this suggests that the naïvely realistic standpoint has no absolute validity after all. Nor is Mr.

¹ P. 76.² P. 86.³ P. 87.⁴ *Ibid.*⁵ P. 89.

Prichard's theory really strengthened by the passages¹ in which he apparently reduces apprehension of 'reality' to apprehension of the mathematical qualities of space and its objects, 'appearance' being due to the shortcomings of particular visual standpoints. For knowledge of spatial properties is after all compounded partly of visual and tactual sensations and hence the relativity of primary qualities to the subject is not destroyed. The common idealistic arguments such as are marshalled in chapter i. of *Appearance and Reality* have not been refuted. For the only contention advanced against them by Mr. Prichard was the axiomatic character of his view that reality is independent of the percipient. This was claimed as a deduction from common-sense thinking, but Mr. Prichard's own concessions in regard to secondary quality and colour rob the common-sense attitude of its validity. Since by 'is' we do not make such a reference to reality as would satisfy Mr. Prichard, in cases of secondary qualities and colours, it is possible that we do not do so in regard to primary qualities—that we are willing in fact to admit the percipient to a share in their constitution without surrendering belief in the reality of the object thus constituted. Mr. Prichard it seems can only deny that it is worth while to raise such a question. But surely the genuine pressure of the pivotal question of the *Critique* (How are *a priori* synthetic judgments possible?), the difficulty of the 'colour'-problem, the very existence of secondary qualities, and the hosts of reasons brought up by idealists in the course of the long controversy, demand a more explicit reply from the side of naïve realism. In face of these facts there does seem an unconscious irony in Mr. Prichard's conclusion. "It is a pre-supposition of thinking that things are in themselves what we think them to be: and from the nature of the case a pre-supposition of thinking, not only cannot be rightly questioned but cannot be questioned at all."² If by things in themselves is meant 'reality' prior to apprehension the presupposition that the aim of knowledge is to grasp them unchanged begs the question; for it is precisely what the critics of realism have always disputed. Mr. Prichard makes only a single attempt to meet criticism when he appeals to a common-sense theory of knowledge; but as we have seen common language distinctly rejects his interpretation. If the unphilosophic consciousness is entitled to doubt the independence of secondary qualities, the philosopher is entitled to extend this doubt to primary qualities as well.

In chapter vi. ('Knowledge and Reality') Mr. Prichard proceeds to a general criticism of the idealist position with the object of showing³ (a) that it issues in pure subjectivism, and (b) that it obscures the directness of contact between the knower and his object, and makes an impossible transference of elements belonging to one side of the relation to the other.

¹ P. 84.² P. 100.³ P. 115.

After a brilliant summary tinged with satiric humour of the Idealist theory as generally stated,¹ he considers himself to refute it with the one axiomatic sentence: 'Knowledge unconditionally presupposes that the reality known exists independently of the knowledge of it, and that we know it as it exists in this independence'.² Assuredly if this is axiomatic, there never was any need of argument. But is it not to beg the question? Is this not precisely what the Idealists dispute? Is it not the goal rather than the starting-point of realistic effort? However, the interesting point is that not even Mr. Prichard seems to occupy this impregnable position with complete consistency. For we read a page or two further on that "We might of course find difficulty in deciding whether a reality of some particular kind (*e.g.* a colour) is dependent on a mind".³ On Mr. Prichard's principles we should in that case have to deny that we can "know" colour. But further, since Mr. Prichard allows our right to doubt "Whether a colour as a colour involves a mind which sees"⁴ (the phrase is a little unusual), may we not extend our doubts to a similar question with regard to primary qualities, "Whether an extended object as such does not involve a mind which feels"? If we can even put the question, Mr. Prichard's fundamental epistemological axiom loses its self-evidence and cries aloud for vindication. Here again there is no need to cite the well-known arguments: but it is remarkable that Mr. Prichard takes no step to meet them.

The further argument whereby it is shown that if Kant *had* admitted that reality exists independently of knowledge, he would have been driven to subjective idealism, *viz.*, the notion that the mind is confined to its own states, clearly hangs in the air, until it is proved that Kant (and other Idealists) do concede the existence of such 'independent' reality, which they do not, or need not do. We may however draw attention to two assertions which occur in the course of this demonstration. "To say of a reality that it is essentially an object of knowledge is merely to add to the particular nature already attributed to the existent in question the further characteristic that it must be known."⁵ But is not the 'mere' addition of this characteristic just the important thing—for how can Mr. Prichard or any one talk of 'reality' at all without it? Again, Mr. Prichard says "any reality exists independently of the knowledge of it"⁶—perhaps, but in what sense? As initial $\nu\lambda\eta$? or as a finished product of a successful effort to know? It makes an enormous difference whether the object of knowledge spoken of is as it appears at the beginning or at the end of a cognitive process, and until Mr. Prichard explains how and by what means it passes from the one condition to the other, his theory has no very relevant relation to the facts either of science or of common life. So far therefore from successfully superseding the fundamental position which philosophy owes to

¹ Pp. 115-118.² P. 118.³ P. 120.⁴ *Ibid.*⁵ P. 122.⁶ *Ibid.*

Kant, *viz.* that the nature of objects cannot be rendered intelligible without reference to the process of mental activity in which they grow up, Mr. Prichard does nothing but reiterate a *non possumus* which is nothing but a *non volumus*. This can hardly impress those who demand of philosophy criticism of presuppositions. They will hardly be satisfied by a theory of knowledge and reality which first claims to be based on a careless everyday use of language, and then proceeds to repudiate this very basis. For we cannot cease to press the point that if the deliverances of naïve consciousness on the nature of knowledge prove anything, they prove the equal reality of primary and secondary qualities, while if they prove the latter illusory (and especially in the case of colour), then they cast an equal doubt on the authenticity of primary qualities. In neither case can they escape scrutiny nor do they merit blind acceptance. Such a scrutiny is what Kant has attempted and his critic has avoided. Consequently Kant's problem has not been solved; he has not been refuted, but refused a hearing. Mr. Prichard no doubt has laid bare the well-known difficulties of a particular theory of knowledge, *viz.* that which, whether it calls itself idealistic (with Plato) or realistic (with Locke), makes knowledge 'representational,' or imitative of the Real which somehow stimulates from without a mind it transcends. But then he realises himself that there is an alternative theory, *viz.* (to quote his own description of it) that "knower and known form an inseparable unity".¹ And this theory in its various developments meets with no refutation from him. It is dogmatically denied. Surely whether or not Kant can be convicted of "representationism," this form of epistemological hypothesis demanded treatment.

Mr. Prichard says on page 124 that on his own view "knowledge is *sui generis* and as such cannot be explained". If so it is surely a pity that books should continue to be written on the theory of knowledge. But if Mr. Prichard is right and the other philosophers are wrong, it follows that, on Mr. Prichard's own showing, one thing needs to be explained, *viz.* how their error, and indeed error in general, is possible. And when he has solved this, Mr. Prichard will perhaps find leisure to tackle next the problem of the *Critique* and the question how are *a priori* synthetic judgments possible?

I may sum up this criticism in the contention that Mr. Prichard has really only brought up a single argument against Kant and Idealism in the whole course of these chapters. It consists of the assertion that if knowledge is to be knowledge it must not affect or alter the reality it deals with. Mr. Prichard treats this position as self-evident, but does not tell us what he means by 'reality' and 'alter'.

But once a 'self-evident' truth has been challenged (as this was by Kant), does it not require defence?—if only by the method of pointing out the disastrous consequences of its denial.

¹ P. 116.

The conclusion this difficulty points to is that the only thing self-evident about Mr. Prichard's epistemology is its incompleteness. Since we have it on his own admission ¹ that when we say (*e.g.*) 'the rose is red' we do not mean what the naïve consciousness supposes we do (*viz.* that the rose is red), it is legitimate and indeed necessary to transcend the naïve theory of what we mean in asserting the reality of primary qualities. In particular it would be instructive to hear whether Mr. Prichard after denying the synthetic function of the mind would equally reject the analytic function which seems to be involved in all judging and is called by Mr. Bradley "mutilation," by Dr. Schiller and Prof. Dewey "selection".² The latter two epistemologists do not apparently come under Mr. Prichard's types of Idealism. They would decline to call themselves idealists and contend that their theory of knowledge fully accepted the real objects of science and common life. But as they insist on the presence of a 'subjective' (*i.e.* human) element in the human knowing of Reality, and only differ from Kant in conceiving its contributions in biological instead of purely rational terms, too, they must be regarded as critical of Mr. Prichard's assumptions. The close agreement between *e.g.* "Axioms as Postulates" and the *Critique*, as to the importance of mental activity, would have made an effective criticism of their view highly relevant in a book which so strenuously denies the existence of such activity.

The upshot of our criticism however is not that Mr. Prichard's Realism is necessarily incapable of consistent statement, but that it is regrettable that it has made no genuine attempt to complete itself.

D. L. MURRAY.

¹ In the discussion of colour : see p. 87.

² Cf. *Studies in Humanism*, pp. 228 n., 453, *Journ. of Phil.*, vi., p. ., vi., 1, 20.

THE ENUMERATIVE UNIVERSAL PROPOSITION AND THE FIRST FIGURE OF THE SYLLOGISM.

MOST modern logicians who have undertaken to defend the syllogism in the first figure against the charge of involving a *petitio principii* are content to allow the justice of the accusation as against a more formal explanation of syllogistic reasoning; more particularly against a special kind of class-interpretation which does not discriminate between two senses of the word 'all'. In some universal categorical propositions, which are according to some authors, improperly called universals, the word 'all' means 'every known instance,' the proposition in question being established by the separate examination of each instance; but in the truly universal propositions of the exact and even of the empirical sciences 'all' means every instance whatever, examined or not examined. Only the second kind of universal proposition, it is contended, can stand as the major premiss of a genuine syllogism in the first figure; on the other hand, statements purporting to be syllogisms, in which however the major premiss has been obtained by a complete enumeration, are spurious syllogisms, wholly obnoxious to the sceptical criticism of syllogistic reasoning. I am fain to admit that the characteristic universals of science are not of the enumerative kind; but I cannot agree that the boundary between genuine and spurious syllogisms can be drawn at the point suggested. It is doubtless an error to illustrate logical processes by examples which are too easy and obvious; but it is a no less extravagant error to insist that every ratiocinative extension of our knowledge consists in the application of universal principles which are apodeictic and necessary.

The doctrine of the syllogism to which I have adverted would exclude from the denomination of reasoning processes which cannot be classified as acts of perception or of memory, processes which assuredly amplify our knowledge by the use of a middle term. Their admission would not impair or endanger the true doctrine of the syllogism; on the contrary, their simplicity and their independence of the difficult problems of imperfect induction, make them pre-eminently adapted to illustrate the distinctive character of syllogistic reasoning.

Before considering examples of reasonings which I maintain to be genuine syllogisms, though the major premiss is an enumerative universal, I will make two preliminary remarks.

I. Our knowledge is often enlarged through our noticing the

implications of diverse propositions which we believe, but which we have not previously considered in a particular combination. The written or spoken words of another person may lead us for the first time to make this synthesis, or we may make it ourselves without such guidance. A person may fall short of knowing a proposition, not through ignorance of the premisses apt to yield it as a conclusion, but through his not having combined these premisses on the appropriate occasion. This habit of readily and aptly combining propositions already known may not constitute the whole difference between genius and mediocrity, but it does constitute a frequent and important difference between one mind and another. The solution of mathematical problems, for example, depends in no small measure on the utilisation of propositions already known.

II. We may also observe that the term reasoning should not be confined to drawing conclusions from propositions known to be true. I may, for instance, in reading or hearing a discourse, notice implications which the author has not pointed out and to which he may not have adverted. Or I may admit the validity of his arguments, while I doubt or dispute the truth of his premisses. Or, again, I may notice that some of his statements may imply propositions which contradict other propositions asserted by him; or that certain propositions implied in his statements, by their strangeness or manifest falsity, render his premisses dubious or impossible. These and similar processes are surely entitled to the name of reasoning.

I now pass on to consider more directly the subject announced in the title.

We may suppose the question to be raised whether a certain Welsh member of Parliament is pledged to support disestablishment; and we may further suppose it to be impossible to decide the question there and then by direct appeal to memory or to any record of the election pledges of this particular member. If, however, we can discover without investigating this particular case that all or none of the representatives of Welsh constituencies are pledged to support disestablishment, we can with complete assurance establish a relation of affirmation or negation between the subject 'This member X' and the predicate 'pledged to support disestablishment'. This argument is *prima facie* a syllogism, and proceeds by insisting upon distributing the middle term.

The only case in which the argument would be unreal or spurious has been excluded by our hypothesis that it is impossible in the circumstances to investigate the case of this member separately. If direct information of each of the Welsh members severally is there and then accessible and employed, then the universal major premiss is superfluous and the syllogism is not needed. But it is often possible and necessary to assure ourselves of the truth of such a major premiss when direct information as to each of the individuals

included in the middle term is not accessible; in such a case, it is clear that we would have recourse to ratiocination or syllogism.

The major premiss might conceivably be established by some insight into a necessary connexion between being a Welsh member and being pledged to support disestablishment; or it might be proved to follow from certain other propositions of an apodeictic character. But such a resort is not always open, and we might well content ourselves with a universal based upon a complete enumeration. This would very probably be the case if we consulted some work of reference or some other credible authority. The result might be that we found it asserted that 'all the Welsh members of Parliament are pledged to support disestablishment'.

Further investigation might or might not be necessary to determine whether X was a member at the time when this assertion was made. Can it be questioned that the undertaking of such investigations and combining their results are acts of our ratiocinative intelligence? and can it be maintained that our reasoning becomes degraded below the level of syllogism if it be discovered that our authority arrived at his universal proposition by a complete enumeration? The fact remains that we affirmed the predicate of the subject of the conclusion not as directly known to belong to the subject, but because we knew that it was distributively applicable to a class of things to which the subject belonged.

The proposition "All Welsh members are pledged to support disestablishment" would not cease to be a major premiss nor the process in question to be syllogistic reasoning, if no external authority were invoked, but the universal proposition depended upon an inquiry made by the reasoner himself. The details of such an inquiry might be partly forgotten but the result remembered or recorded. A person might argue as follows: "I cannot directly recall a pledge given by X to support disestablishment; if therefore I had to depend upon my reminiscences of individual instances, I could not make the assertion which I do make. But I know that I noticed and laid on record that X was a candidate at the general election in 1906, and I recollect in a similar way that all the candidates then elected pledged themselves to support disestablishment. Thus though I cannot recall the particular pledge given by the individual candidate X, these two facts which I do recall enable me to affirm with complete assurance that X pledged himself to support disestablishment."

It seems to me obvious that this process is more complex than direct memory, and that the synthesis of distinct propositions which it contains is precisely that which distinguishes inference from perception and memory.

I have purposely made this illustration very simple. A feature might be added which might make the ratiocinative character of the reasoning more palpable, and so make it still clearer that syllogistic reasoning is independent of the apodeictic or merely

assertoric character of the major premiss. We may suppose the middle term not to be suggested by the statement of the question, but to be discovered as appropriate in the course of finding the answer. This would be the case if the question were asked, 'Is X in favour of disestablishment?' This question would usually set us seeking a middle term through which to relate X affirmatively or negatively to the predicate suggested. This search for a middle term would be, in general, a search for a class to which X belongs, which is as a distributive whole related affirmatively or negatively to the predicate. The conclusion 'X is in favour of disestablishment' is again established mediately and again the major premiss does not require a necessary and apodeictic connexion between its subject and predicate.

I should be gratified if, in addition to justifying the claim of such reasonings as I have illustrated to the denomination of genuine syllogisms, these remarks did something to rehabilitate the too rashly discredited class-interpretation of categorical propositions especially in relation to the formal exposition of the syllogism. The aptness of the class-interpretation for the formal criticism of the syllogism has been recently advocated with much ability by Dr. Keynes.¹ He also retains as convenient and adequate the traditional *Dictum de omni et nullo*, as the principle of syllogistic reasoning in the first figure.² Substitutes for the Dictum such as that offered by Mr. Joseph,³ "*What satisfies the condition of a rule falls under the rule,*" seem to me to be open to the same sceptical and sophistical objections as the *Dictum* itself. What, it might be asked, is the difference between satisfying the condition of a rule and falling under it? In so far as it tends to countenance the limitation of syllogistic reasoning to syllogisms in which the major premiss is a universal expressing a necessary connexion, or to support the interpretation of the true universal proposition as hypothetical, it is not only pedagogically but philosophically inferior to the *Dictum*.

W. J. ROBERTS.

¹ *Formal Logic* (4th ed.), §§ 135, 136.

² *Op. cit.*, § 209.

³ *Introduction to Logic*, pp. 286, 287.

VI.—CRITICAL NOTICES.

The Symposium of Plato. By R. G. BURY. Cambridge: W. Heffer & Sons; London: Simpkin, Marshall & Co., 1909. Pp. lxxi, 179.

MR. BURY'S *Symposium* will be interesting to students of Plato, not only as, apparently, the first English edition of the dialogue with a commentary, but as the first edition in which the recently discovered papyrus fragment which contains, with some omissions, the whole of the dialogue from 200 b on, has been available for the constitution of the text. The editor's Introduction provides an eloquent and generally sane analysis of the purpose and structure of the dialogue, and the notes are brief, interesting and often enlightening. Mr. Bury never allows himself to forget that the *Symposium* is primarily a great work of literature and not a manual of epistemology. I should in particular like to congratulate him on the excellent judgment with which he has foreborne to swell out his exposition of Plato's "Hymn to Intellectual Beauty" with superfluous disquisitions on the "Ideal Theory," a subject on which the *Symposium* really has not so very much to tell us. It is also a sign of grace that the text as printed shows on the whole a commendable distrust of the gloss-hunters of the school of Cobet, though I regret that the commentary is often less conservative than the text. The chief result of any value, so far as I can judge, yielded by the papyrus fragments of different dialogues of Plato is the proof they afford that nine-tenths at least of the "glosses" excised by Cobet and his admirers must have stood in the Platonic text when the demand for cheap papyrus copies of it arose, *i.e.* probably within a century of Plato's death. Since a text does not begin to be glossed until it is already antiquated, this is as much as to say that the number of actual "glosses" in our text of Plato must be relatively quite small. This leads me to say a word about Mr. Bury's text of the *Symposium*. The actual supply of new readings or material hints for new readings furnished by the Oxyrhyncus papyrus is not great. There is one pretty certain correction indicated in 213 b where the papyrus gives *κατιδε*[ν]—*i.e.*, *κατεῖδεν* or *κατιδεῖν*, of which Mr. Bury prefers the former,—for the impossible *καθίζειν* of our MSS. A second reading from the same source which is probably valuable as a clue to the true text is [καί] *περι* *εκείνο* *γε* in 219 c for the

καίπε» ἐκεῖνό γε or καί περ κείνό γε of the MSS., though I am not sure that Mr. Bury's καὶ περὶ ἐκεῖνο [ὃ] γε utilises the papyrus text to the best purpose. Further, we now have proof that Hug's τεκεῖν (for κνεῖν of the MSS.) in 209 a actually stood in ancient texts, and it is pleasing to possess additional proof that Socrates' friend Diotima was a woman of Mantinea, and not simply a "mantic woman". Beyond this I cannot see that the papyrus offers us anything of moment. The conjectures actually received into the text or suggested in the notes by the editor himself do not seem to me, as a rule, happy, and in some cases I think they are due to mere misunderstanding. For instance, in the much-discussed passage 175 b, where Agathon says to the servants πάντως παρατίθετε ὃ τι ἂν βούλησθε, ἐπειδάν τις ὑμῖν μὴ ἐφεστήκη the text seems to me absolutely sound. The editors have made an imaginary syntactical difficulty for themselves by not seeing that παρατίθετε is indicative. The sense is simply, "When you have no one to give you orders—a thing I never do, you send up what dishes you please, so now too regard us as your guests". Another instance of unfortunate tampering with a sound text is 203 a, διὰ τούτου (sc. τοῦ δαιμονίου) πᾶσά ἐστιν ἡ ὁμιλία καὶ ἡ διάλεκτος τοῖς θεοῖς πρὸς ἀνθρώπους καὶ ἐργηγοροῖσι καὶ καθεύδουσι; where Mr. Bury thinks it necessary on grammatical grounds to insert after ἀνθρώπους a clause <καὶ πρὸς θεοὺς ἀνθρώποις>. Plato is thus made to say that the sleeper's mind "talks with God," an idea which is common enough in Christian mysticism, but for which no Platonic parallel exists. The sentence is sound as it stands; the datives of the participles are virtually "absolute," but may be explained as a development of the "dative of interest". Thus we get the rendering "communication and converse of gods with men is effected by this agency, both for the waking and for the sleeping".¹ So again in 209 b, the defence of the MSS.—and papyrus—θεῖος against the brilliant conjecture of Parmentier, ἦθεος, seems to me to miss the point. To keep θεῖος Mr. Bury is compelled to a more serious departure from the MSS. in the next few words, and he is quite mistaken in the saying that there is no point in mentioning "the celibacy of the youth"; ἦθεος is not a mere equivalent of ἄγαμος; it means what our "bachelor" does in the speech of poetry, the masculine correlative of παρθένος, a "lusty squire". The thought is that the soul, no less than the body, has its first flush of virginal adolescence in which its "fancies lightly turn to thoughts of love". If Plato did not write this, rather than the commonplace θεῖος, he surely ought to have done so.

Next a word as to the *Introduction*. Admirable as I find its tone

¹ Cf. Monro, *Homeric Grammar*. § 246, end of the footnote on p. 213, and for a large list of exactly similar examples, Kühner-Gerth, *Griechische Grammatik*, iii., 1, p. 423 f. A good example from Plato is *Protagoras*, 321 e, ἀπορροῦντι δὲ αὐτῷ ἔρχεται Προμηθεύς (where one must not translate "Prometheus comes to him").

as a whole, I cannot accept many of the editor's views on special points, and his discussion of the date of the dialogue seems to me to proceed throughout on false assumptions. Mr. Bury, I fear, is too readily led astray by undue respect for the fanciful crotchets of the Germans whom he has evidently studied so diligently. Thus he more than half accepts the notion that Apollodorus, both in the *Phædo* and in the *Symposium*, serves as a mask for Plato himself. As far as the *Phædo* is concerned, the suggestion seems to me merely ludicrous, while the part played by Apollodorus in the *Symposium* is completely explained by Xenophon, *Mem.* iii., 11, 17, where he is coupled with Antisthenes as a devoted ἐπασις of Socrates. (This suggests that he belonged to the same general *Richtung* as the Cynics, as is, in fact, indicated by Plato in the opening conversation of our dialogue.) Again, the theory that the *Symposium* was meant as a rejoinder to the pamphlet of Polycrates against Socrates, in which Socrates and Alcibiades had been depicted as grossly misbehaving themselves in a banquet scene, strikes me as a pretty piece of fiction, but as pure fiction for all that. To begin with, as I shall show directly, it is quite possible that the *Symposium* may be the earlier work of the two. Further, all that we know about the account given of Socrates' connexion with Alcibiades in the pamphlet is what Isocrates tells us, that Polycrates said that Socrates had Alcibiades as a disciple. The presumption is that Polycrates' object was to make Socrates responsible for the political misdeeds of his disciple, and this presumption would be much strengthened if we had the right to assume, as Mr. Bury does, that the κατήγορος referred to by Xenophon in the *Memorabilia* was Polycrates. (Mr. Bury seems unacquainted with Blass's arguments against this identification.) Isocrates gives no ground to think that Polycrates had called Socrates the ἐπασις of Alcibiades, though, if Polycrates had said anything of the kind, it would have been just to Isocrates' purpose to mention it. When we turn to Plato, we learn that the account of the "banquet" which he intends to correct had been derived originally from the same source as that by which he proposes to correct it, Socrates' friend Aristodemus, and it is censured merely as imperfect and inadequate. Surely this means that Plato has in view a "Symposium" composed by some unknown "Socratic man" (I quite agree with the editor that there can be no allusion to the work of Xenophon, which itself unmistakably alludes more than once to Plato's dialogue), a work in which Aristodemus had figured as the authority for the narrative, and not a hostile attack.

Still more fanciful, in my judgment, is Mr. Bury's account of Diotima. Diotima is a "fictitious person"; she is called a Mantinean in order to suggest the idea of μαντική, and named Diotima, partly with a view to the omen, partly, as Gomperz has maintained, by way of allusion to Plato's own passion for Dion. It is a pity to spoil so pretty a story, but really I must retort that Diotima is

called so by Plato because that was her name, and said to come from Mantinea, because she did in fact come from there. That Diotima is a real person seems to me certain for two reasons. In the first place, there is no certain example in Plato, nor as far as I know in the literature of the fourth century, of the employment of fictitious characters in a dialogue. With one or two exceptions all Plato's personages are known to us from other writers or from inscriptions, and the overwhelming probability is therefore that the one or two only known from his pages are real persons too. Secondly the remark about the sacrifices by which Diotima put off the famous pestilence is quite pointless unless it refers to real and notorious facts. Moreover Socrates' interest in the priestess and her doctrines is exactly of a piece with his interest in Philolaus and his disciples, his association with Chærephon "the bat," his curiosity about the worship of Bendis and a host of other things we learn from Plato about the "mystical" strain in his character. The argument from the significant character of the name Diotima amounts to nothing; Protagoras, Thrasyarchus, Speusippus, Aristotle, Demosthenes and a host of other real persons all bore names even more singularly appropriate to their characters or careers. As for the allusion to Dion, I propose immediately to give reasons for thinking that the *Symposium* was written before Plato and Dion had ever met. This brings me to the question of the date of the dialogue. And here Mr. Bury seems to me to have overlooked the most important piece of evidence in existence, an oversight which is the more excusable that the passage in question has been neglected by every recent scholar with whose work I am acquainted except Eduard Meyer. In the 7th *Epistle* (326 b) Plato expressly quotes the statement of *Republic* vi. that "the races of men will never cease from ills" until either philosophers become kings or kings philosophers, as a statement he had been "driven to make" before he first visited Sicily and made acquaintance with Dion. (That the reference really is to the *Republic*, and not to anything Plato had merely said in private conversation, is shown by the remark that it occurred in "an eulogy on genuine philosophy" (λέγειν ἡγακάσθην, ἐπαινῶν τὴν ὀρθὴν φιλοσοφίαν), which is, in fact, the exact context in which we read the sentence in the *Republic*.) I take it as certain then that *Republic* vi., and probably therefore the whole *Republic*, was composed before the King's Peace of 388-387. If this is so, we can hardly avoid holding that the *Symposium* and the rest of the dialogues with which it forms a natural group were written still earlier. The *Symposium* may therefore well be as early as 390, or some year or two earlier still. Thus it will, contrary to Mr. Bury's opinion, be earlier than Aristophanes' *Plutus*—if the date of the play is 388,—and possibly than the pamphlet of Polycrates, which appears to fall a year or two after 393. Further, as Blass has argued, the absurd statement of Isocrates in his *Busiris* (the date of which is

usually held to be not long after 391), that no one had ever heard of any connexion between Socrates and Alcibiades until Polycrates invented one, reads very much like a polemical attack on Plato's story of their intimacy as given in the *Symposium*. Hence I feel bound, while agreeing with Mr. Bury as to the flimsiness of Lutoslawski's arguments, to suggest 388-387 as a latest possible date for our dialogue, and 390 as the most probable approximate date. There remains, of course, to be considered the alleged allusion of 193 a to the breaking up of Mantinea by the Spartans in 385-384. But I confess that I see no reason to believe that Plato means the allusion at all. The proceedings of that year were a *διοικισμός* of the Mantineans, not a *διοικισμός* of the Arcadians, since most Arcadians had never been citizens of Mantinea at all. Neither Xenophon nor Isocrates, the authorities to whom Mr. Bury refers us, says a word about any *διοικισμός* of *Arcadia* in their account of what the Spartans did; they only say, correctly, that *Mantineia* was broken up. Mr. Bury's third reference is to Aristotle, *Pol.*, B 1261, a 28, a passage which mentions no specific historical events at all, and is actually most naturally understood to refer to the Arcadia of his own time, which had a political centre in Megalopolis.¹ Incidentally, I would add that Mr. Bury's reasons for dating the *Phædrus* before the *Symposium* seem to me of the "flimsiest" kind. Without raising the general question of the date of the *Phædrus*, we are, I think, safe in seeing a direct allusion to the *Symposium* in the remark that Phædrus had been the cause of more *λόγοι* than any other man, with an exception in favour of Simmias.

In conclusion, I should like to make one or two comments on some of Mr. Bury's notes. The notes, as a whole, strike me as full of suggestion, but sometimes spoiled by an over-subtlety which leads the editor, in his quest for the far-fetched, to miss what lies at his feet. *E.g.* on 202 E, where the "dæmons" are said to act as "messengers and convoys" between gods and men, the editor tells us that they bring *messages* from gods to men, but act as *convoys* from men to the gods, and finds an allusion to Charon and his boat. In point of fact, Plato expressly explains that both functions are exercised in both directions. The "dæmons" as messengers bear men's prayers (*δεήσεις*) to heaven, and heaven's commands (*ἐπιτάξεις*) to men; they "convey" sacrifices from men to God, and the *quid pro quo* (*ἀμοιβὰς τῶν θυσιῶν*) from God to

¹ Plato then, as I take it, is not referring to any specific exploit of the Spartans at all; he alludes simply to the fact that, owing to the pressure of the Lacedæmonian power to the southward, the Arcadians in general had from time immemorial been prevented from forming an *Einheitsstaat*, and had always lived in scattered hamlets. As this might have been said at any time prior to the establishment of Megalopolis, there is no anachronism, and the passage is useless as an indication of the date of the dialogue.

man. Charon and his wherry have nothing to do with the matter. So at 217 E, where Alcibiades says ἀφανίσαι Σωκράτους ἔργον ὑπερήφανον . . . ἀδικόν μοι φαίνεται, Mr. Bury, who is very quick to detect symptoms of a pun, bids us note the play on words ἀφανίσαι . . . φαίνεται. Whether Plato intends a "play" at all may be doubted; if he does, surely it is on ἀφανίσαι and ὑπερήφανον. I may note, by the way, that the name of Parmenides' goddess who "devised love first of the gods" is pretty certainly none of those given by the editor. She appears to have been called Ananke (Diels, *Fragmente der Vors.*, i., p. 123, 1) and Dike, and to have been a "holder of lots" (*ib.*, p. 111, 11). (This, of course, makes her correspond exactly with the Ananke of the Myth of Er.)

I observe that the editor has missed what is perhaps the most important historical allusion in the dialogue. From 220 c, we learn that when Socrates was suddenly seized by one of his fits of abstraction at the siege of Potidæa, it was a camp-joke that Σ. φροντίζων τι ἔστηκε. This means, of course, that he was already well known as a φροντιστής—a "Botherationist," as we might say—years before the production of the *Clouds*, a fact of importance in its bearing on the value of Aristophanes' caricature as evidence about its object. Another well-known place, where the point seems to me to be missed, is 223 d. The humour of Socrates' proof that a *scientific* dramatist can produce both tragedy and comedy lies, of course, in its implication that neither Agathon nor Aristophanes, the two auditors of the argument, really knows what he is about when he composes his plays. They compose under an irrational "inspiration," as the *Apology* had declared. Speculations as to the deep hidden wisdom of this charming jest are surely a little out of place. In conclusion may I say that it is a pity that Mr. Bury's correct perception of the connexion between the doctrine of Eros ascribed to Diotima and the conception of the "maieutic art" has not led him to consider the probability that the whole theory of the philosophic Eros belongs to Socrates rather than to Plato, and that, like the σῆμα-σῶμα doctrine of the *Gorgias* and *Phædo*, it indicates the importance of the Orphic element in Socraticism.

A. E. TAYLOR.

Source-Book in Ancient Philosophy. C. M. BAKEWELL. London: T. Fisher Unwin, 1908. Pp. xii, 393.

PROF. BAKEWELL'S performance is hardly up to the level of his good intentions. It is, of course, a mistake to fancy that any one can acquire a real understanding of Greek thought apart from a sound knowledge of Greek, any more than a man can really know Roman Law if he cannot read Latin. The difficulty is not merely the perennial one of reaching the mind of a thinker through the intermediary of a translator whose "personal equation" is an unknown

factor; it is rather that the Greek-less reader is disqualified from forming an opinion of his own on the authenticity of a document or the historical worth of a statement. A notice, *e.g.* of a "doxographer" or a sentence of Laertius Diogenes may be of first-rate significance for the history of Greek science, if only it can be shown to be trustworthy; but the man who has no Greek of his own can neither decide the question of trustworthiness for himself nor follow, with real comprehension, the verdict of others. Hence, it is to be hoped that American students will before long discover that the only way to make the study of Greek Philosophy more than a sham is to carry it on hand in hand with the study of Greek life and letters. Meanwhile, so long as the conditions make this an unrealisable ideal, it is essential that, at least, the compilers of works like the present should be themselves sound scholars, capable of selecting or constructing a satisfactory text for their translations, of rendering it accurately, and of knowing what it is important to translate, and what may be omitted. In all these respects Prof. Bakewell's volume seems to me open to serious criticism in many parts. The selections are by no means always judiciously made, the texts followed are often exceedingly bad, when there were adequate ones at hand, and the renderings (except those which are taken over entire from translations by previous scholars of proved fame) are often suggestive of considerable ignorance of Greek. This is the less pardonable, since even by relying on a single good compilation such as Ritter and Preller the worst of these faults might have been avoided.

A few words on each of the points specified.

The volume aims at representing the whole course of philosophic development from Thales to Plotinus. (The inclusion of the latter is an excellent feature of the book, if only the gentleman responsible for this part of the work had known how to choose a satisfactory edition of the text, and to render it with greater accuracy.) It is curious to observe that the immensely important elaboration of scepticism by the New Academy is passed over in absolute silence, though ample material lies ready to a compiler's hand in such familiar sources as the dialogues of Cicero, to say nothing of Sextus. Indeed, even where some reference to the New Academy could hardly well be avoided, as in the attack on the Stoic theodicy translated from Plutarch, neither the translator nor the editor warns the reader that what is being reproduced is a *réchauffé* of the work of Carneades. I can hardly suppose that Prof. Bakewell has never heard of the Hume of antiquity, but his silence does not augur well for his competence to execute such a task as he has undertaken, and my misgivings are increased when I find him repeatedly referring the reader to Diels's *Doxographi* without any explanation as to the nature of its contents or their value as historical evidence. Can he really think that the "doxographers" form a single work of uniform authority in all passages, or, if not, why has he failed to give the student a hint of the composition of the volume, and the tests of the

worth of a "doxographical" tradition? The references, as they stand, do no more than give Prof. Bakewell's book a certain spurious appearance of scholarship which the contents wholly fail to substantiate. Similarly, it is suspicious that the section on the Pythagoreans should contain, apart from the well-known passage from *Metaphysics A.*, nothing but a (borrowed) rendering of the "Golden Verses," which has no place at all in a "source-book" of *Philosophy*. Why are none of the precious fragments of the genuine Pythagorean philosophy of number, which may be found *e.g.* in Ritter and Preller, included? Can it be because Prof. Bakewell would have needed to translate them for himself, while the worthless "Golden Verses" had already found a translator? Let me add, that, if Democritus was to be indulged with eight pages, it is scandalous that half of them should be taken up with commonplaces of ethics to the entire exclusion of the vastly important doctrine of sensation preserved for us in Theophrastus, *De Sensu*.

A much more serious matter is the treatment of Epicureanism and Stoicism. The main sources are naturally found in the actual remains of Epicurus preserved by Diogenes, and in the account of Stoic doctrine incorporated in the same writer's life of Zeno. No scholar need be told that in making selections from this source it was essential to use only the properly constructed text which has been given for Epicurus by Usener, and for Zeno by von Arnim. Prof. Bakewell has shirked the work which translation from these texts would involve, and simply reproduced an old version of Diogenes made from a hopelessly corrupted text, and frequently entirely perverting the meaning. Further, in the section devoted to the Stoics, hardly anything is given which throws any light either on the Stoic physics or on their theory of knowledge; the passages for inclusion could, in fact, scarcely have been worse selected if they had been taken simply at random. In the long section given to Plotinus, the selection has been more judiciously made, but the selector's incompetence is shown at once by the adoption of Creuzer's—the worst of all possible texts—as the one to translate, though there are at least two cheap and easily procurable editions in circulation, that of Volkmann and that of H. F. Müller.¹ Again I am forced, by some singular oddities in the rendering, to ask, Was Creuzer's text selected (a thing of itself enough to ruin the reputation of the book with scholars) because it happens to contain the often very inaccurate Latin version of Ficinus, and has the English version been largely got at by trying to puzzle out the meaning of the Latin?

Now a sample or two of translation. The versions, it should be

¹ The compiler might have learned the value of Creuzer's text if he has not enough Greek to discover it for himself, from the *Prefaces* to these two recent editions. Müller says that Creuzer left the *Ennuds potius emendandas quam emendatas*, Volkmann, more vigorously, that the most superficial examination of his work will lead one to "bet any money" that he was *Græce indoctissimus*.

noted, are not for the most part original, and in many cases, *e.g.* Lucretius, Plato, are guaranteed by the names of such scholars as Munro and Jowett. That of Plato's *Apology*, and apparently of the chapters of *Metaphysics* A which expound Aristotle's doctrine of God, are Prof. Bakewell's own; the selections from Plutarch and Plotinus are rendered by Mr. B. Fuller of Harvard University,—and the translations from the *Lives* of Zeno and Epicurus are from Yonge's *Diogenes Laertius*,—that is, they are about as bad as they can be. The version of the *Apology* may, on the whole, pass muster, if one can endure that Plato should be made to speak the ugly slang of an American newspaper, though Prof. Bakewell falls into the time-honoured blunder of making Socrates say that the doctrines of Anaxagores were to be heard “at the theatre” (p. 118). The version of *Metaphysics* A 6 is more open to criticism. Thus κίνησις δ' οὐκ ἔστι συνεχής ἀλλ' ἢ ἡ κατὰ τόπον is rendered (p. 227), “there is no motion save in space”—a double mistranslation, since the all-essential word συνεχής, “continuous,” is omitted, and κίνησις κατὰ τόπον is loosely translated “motion in space,” instead of “motion through space”. As the version stands, Aristotle is made to deny the reality of every form of κίνησις except locomotion. A little further on, Plato is saddled by a mistranslation with a patent absurdity not ascribed to him by Aristotle, “he says that the soul is both subsequent to and coeval with the heavens” (p. 229). Of course Plato said nothing so silly. Translate [the soul cannot be, as Plato thinks, the first source of motion] “for according to him the soul comes in afterwards, and is, in fact, coeval with the heavens”. Mr. Bakewell's rendering, besides being doubtful Greek, credits Aristotle with a singular ignorance of the *Timæus*. The reasoning of the rest of the chapter is obscured by the singular misrendering of the words βέλτιον τὸ πρῶτον, 1072 a 15, which mean, not as Prof. Bakewell thinks, “the heaven of the fixed stars is superior” but simply “it is better to say that [it acts in virtue of] the first [heaven]”. Immediately below, we come across a genuine “howler” of the first water. After speaking of the “eternity” of the diurnal revolution, Aristotle goes on, ἔστι τοίνυν τι καὶ ὃ κινεῖ, “accordingly, then, there is something which moves them,”—the Aristotelian argument for the existence of God packed into a sentence. Prof. Bakewell translates, “there exists that to which these impart motion” (p. 230), and reduces the reasoning to nonsense. Just below, the assertion that the “simple” is a “kind of relation” (p. 231), exactly denies what Aristotle means to assert by calling it πῶς ἔχον αὐτό. His point is that “simple” is *not* a relative term, like “one,” for “one” signifies a measure, but *simple* a *thing itself* with a specific character”. I note two insidious minor mistranslations in the course of chapter 9. Aristotle does not ask (p. 234) whether it is absurd that God should “think discursively about a plurality of things,” but merely whether there are not *some* things about which it would be absurd for God to think (*e.g.* indecent stories, smoking-room riddles,

and the like). That God does not think about a "plurality of things" is a point he proposes to prove, not to settle by a rhetorical outbreak. And besides "discursively" is not in the Greek, and *τινά* by itself cannot mean "a plurality". Similarly the reference to "favoured moments" (p. 235) is wrong; the passage only means that the "good" is not enjoyed at any isolated moment, but only in a "complete life" taken as a whole.

Prof. Bakewell is, however, a more trustworthy guide to the translation of a Greek author than his friend Mr. Fuller. It is rather astonishing that a writer who could translate the line *τίς τ' ἄρ' σφωε θεῶν ἔριδι ξυνέηκε μάχεσθαι*; "who forced them to fight in the battles of gods?" (p. 286) should have had the courage to venture on the Greek of Plutarch and Plotinus at all, and the results of Mr. Fuller's daring are certainly sometimes singular. I propose to give only one or two examples, taken at random:—

P. 284 (Plutarch, *de Communibus Notitiis*, 13), "It is worth while to take this doctrine and compare it with those sayings of his in which he accuses Xenocrates and Speusippus of not regarding health as indifferent, and wealth as useless, and in the same place defines vice and discourses about it". True rendering: "it is worth while to recapitulate (*ἀναλαβεῖν*) the doctrine in his own words (*τοῖς ἐκείνου λέξεσιν*), that you may see what place is assigned to vice, and what language is held about it by the very men who accuse Xenocrates and Speusippus, etc."

P. 344, "although the part hurt is different from it, the ruling faculty perceives the animal spirits" (Plotinus, *Enneads*, IV., 7, 7). Translate, "though the part hurt, viz., the animal spirits, is different from it, yet the ruling faculty has the perception". Plotinus means that the *πνεῦμα*, the bodily organ injured, is not the subject which perceives the pain. Mr. Fuller has simply mistaken the genitive absolute for the object of *αἰσθάνεται*.

P. 350, "If my soul and the soul of another man be one, it will not follow that both are reciprocally identical". This is, on the face of it, senseless. What Plotinus says is perfectly good sense, "if my soul and that of another are one, it does not directly follow that the one composite (*συναμφότερον*) is identical with the other". The *συναμφότερον* means the totality formed by soul and body, which is, for Plotinus, the subject of perception. The point, which the translator misses, is this: If "all souls are one," then, asks the objector, why do you not feel my pains, and I yours? Plotinus replies that the subject which perceives bodily affections is not the "soul," but the *συνθετόν*, or composite of soul *plus* body. Now, even if your soul and mine are really one, your body and mine are not one; hence the *συνθετόν* in my case is not identical with that in yours, and the doctrine that "all souls are one" does not require that I should be aware of your immediate experience. If Mr. Fuller really is ignorant of so important a feature of Plotinus' psychology as his theory of perception, he should think twice before figuring as a translator.

P. 355, "The true life of Chronos (*sic*) which is the offspring of God and the intellect". The Greek is (*Enn.*, V., 1, 4), τὸν ὡς ἀληθῶς ἐπὶ Κρόνον βίον, θεοῦ κόρου καὶ νοῦ ὄντος. As I do not know what the translator means to be regarded as the antecedent to "which," I am not sure whether he reached his result by taking κόρου in apposition with βίον (!), or by making it govern θεοῦ and νοῦ, but, at any rate, he makes the blunder of supposing that κόρος, "lad," could be used by Plotinus in the sense of "son". It is hard to be sure exactly how Plotinus means to be understood, but the really instructive point is that his words contain an allusion to the text of Plato, apart from which they are unintelligible, and which Mr. Fuller has ignored. The reference is to the explanation given of the name Cronus in the *Cratylus*, where Plato derives it from κόρος and νοῦς and explains it to mean the "swept and garnished" intellect. Thus Plato seems to be taking κόρος in the sense of "besom" (*cf.* κορέω, to sweep), and Plotinus is following him, though, I think, as the context shows, with a further allusion to κόρος, abundance, satiety (itself well known as a Heraclitean term for the primary body). Translate then, probably, "the true golden age of Cronus, the god who is Satiety and Intelligence".

P. 359, "When she (the soul) has betaken herself to creation . . . (she) is bereft of her father and becomes wanton". ὑβρίζεται here is passive, as the metaphor of ἐρημία πατρός shows. The soul which is "present with the body, absent from the Lord" is described as a beautiful girl, journeying in a far country, who is exposed to the liberties of her admirers for want of her natural and legal protector: Tr.: "is *exposed to liberties for want* of a father".

P. 360, "Lameness arises during growth from the failure of the seminal reason to overcome matter, and is a chance mutilation of form". To say nothing of the misleading rendering, always followed by Prof. Bakewell and Mr. Fuller, of λόγος by "reason," even where, as in the phrase λόγος σπερματικός, the result is meaningless, the rendering carefully ignores a distinction which Plotinus means to draw between two different things, congenital defects and injuries which arise from the chances of life, his point being that, "there," in the ideal world, neither kind of evil is present. We must read, not with the MSS. and Creuzer, χωλεία ἡ δέ, but with Müller χωλεία ἡ ᾗδῃ, or with Volkmann ἡ μὲν ᾗδῃ, which gives the necessary sense: Tr.: "Wherefore there is *there* none of the things which are contrary to nature, as in the arts there is nothing contrary to art, nor yet lameness in seeds. As for lameness of *feet*, sometimes it arises in the process of generation, when the proper *ratio* fails to prevail, sometimes it is an accidental defacement of the form" (*Enn.*, V., 9, 10).

Examples of the kind, which could be abundantly multiplied if it were desirable, show that no very high standard of scholarship can be expected from Mr. Fuller's translation. What is, however, really a more serious defect than specific blunders in rendering is

the looseness with which our authors permit themselves to translate what are perhaps the most important class of words in the language, the connective particles. When a man starts with the conviction that γάρ, δὲ, γοῦν, ἐπειδὴ, all mean much the same thing, and may be translated by pretty much any English connecting phrases you please, the result is bound at best to be something of a muddle; the individual propositions are there, but it is largely left to the reader's fancy what he shall suppose to be the connexion between them; at the worst, one gets cases in which the premisses of an argument are made to figure as its conclusion and *vice versa*.

I am sorry to have dwelt so long upon the defects of a book which is not without its good points, but it was not to be helped. In America, at any rate, teachers are likely to make a good deal of use of the present volume as an introduction to the study of Greek Philosophy, and it is only fair that they should know how far it can be relied on as authoritative. It is not every busy teacher of Philosophy who may happen to know for himself what is the worth of a translation of Laertius Diogenes or a text of Plotinus, and it therefore seems a duty in one who happens to know to impart his information to others. If a thing is worth doing at all, it is worth doing well; sham scholarship is the one thing for which the republic of letters should have no place.

A. E. TAYLOR.

Darwin and Modern Science. Essays in commemoration of the centenary of the birth of Charles Darwin and of the fiftieth anniversary of the publication of *The Origin of Species*. Edited, for the Cambridge Philosophical Society and the Syndics of the University Press, by A. C. Seward, Professor of Botany in the University, Honorary Fellow of Emmanuel College. Cambridge: at the University Press, 1909. Pp. vii, 595.

THE authors of this volume "were asked to address themselves primarily to the educated layman rather than to the expert. It was hoped that the publication of the essays would serve the double purpose of illustrating the far-reaching influence of Darwin's work on the progress of knowledge and the present attitude of original investigators and thinkers towards the views embodied in Darwin's works." In these terms the editor describes the purpose of the work; and the result is a book of great and varied interest. In addition to a short Introductory Letter from the veteran Sir Joseph Hooker, there are twenty-eight essays in all. Nineteen of these are written by biologists. The remainder deal with other departments of thought which have been more or less affected by Darwinian ideas. No one but a biologist is competent to give a critical estimate of the value of the greater portion of the book.

But, as it is not addressed to experts, I have consented, at the request of the Editor of *MIND*, to give a short account of the way in which its contents strike the "educated layman".

Taken as a whole the biological essays show a decided leaning towards the mechanical interpretation of organic phenomena. In this they are working on Darwin's lines; for natural selection is undoubtedly a step in the direction of mechanism, although it presupposes factors which have never been explained mechanically. A treatment of some leading topic from the neo-vitalist point of view would have made the volume more representative in character. At the same time there is plenty of difference of opinion even on points of fundamental importance for the Darwinian theory. Perhaps orthodox Darwinism is best represented in Prof. Haeckel's essay on "Darwin as an Anthropologist". Prof. Haeckel holds to Darwin's view that "natural selection acts solely by accumulating slight, successive, favourable variations"; "the mutation-theory," he says, "has no causal value". He continues to maintain stoutly the Darwinian assumption that acquired characters can be inherited: "Transformative heredity," he says,—"or the transmission of acquired characters—is one of the most important principles in evolutionary science. Unless we admit it most of the facts of comparative anatomy and physiology are inexplicable." Further, he re-asserts his view that the development of the embryo is a recapitulation of the life-history of the race.

All these doctrines are now matters of controversy; and the opposed theories are well represented in the volume. The theory of recapitulation is criticised by Prof. Sedgwick in a most interesting and lucid article on "Darwin and Embryology". There is also an article by Prof. De Vries on "Variation," in which he explains and defends his mutation-theory. The value of this article is not increased by an unnecessary and obviously mistaken attempt to connect his view with some expressions of Darwin's. But the definition which he gives of mutations is interesting. Variations, he says, are of two types. "Fluctuations constitute one type; they are never absent and follow the law of chance, but they do not afford the material from which to build new species. Mutations, on the other hand, only happen to occur from time to time. They do not necessarily produce greater changes than fluctuations, but such as may become, or rather are from their very nature, constant. It is this constancy which is the mark of specific characters, and on this basis every new specific character may be assumed to have arisen by mutation." In other words, if we define mutations as the variations that persist, and call all other variations by the name fluctuations, it follows of necessity that new species are built up by mutations. It is, indeed, a mere identical proposition. But surely Prof. De Vries means a great deal more than this by his theory. To establish that theory he must define mutations by some other character than their constancy, and then

show that they *are* constant. Should he be able to demonstrate the thesis that there is an intrinsic difference between the variations which do and those which do not contribute to the formation of new species, he will have brought about a fundamental modification of the theory of selection.

But the most important modification of all is that due to the work of Prof. Weismann and elaborated again in his article on "The Selection Theory" in the present volume. The denial of the transmissibility of functional modifications (or "acquired characters") removes from the operation of natural selection (as a factor in evolution) a great mass of variations which Darwin seems to have had particularly in view as contributory to species-building. It is therefore not surprising to find Prof. Haeckel inclined to make the decision of this question a test of standing or falling Darwinism. To Prof. Weismann's theory he refuses the name even of "Neodarwinism"—refuses it even when the "Neo" is spelt with a capital N and the "darwinism" with a small d. This attitude is significant, especially when we bear in mind that, on the point in dispute, the trend of opinion amongst biologists is opposed to the doctrine assumed by Darwin and regarded by Prof. Haeckel as indispensable. Prof. Weismann expounds in a vigorous and interesting essay the complicated and highly speculative series of hypotheses which form his own constructive substitute for the older Darwinian doctrine. But, whether biological doctrine develop in the direction of his theory or in that of Prof. De Vries or in that of Mendel, it seems clear that, at present and for some time to come, the inquiry into the causes of evolution is and will be directed not so much to individual organisms and their interaction with the environment as to the structure of germ-cells and the changes which they undergo in the process of development. If acquired characters cannot be inherited, it follows that—whether we assert its continuity or not—the origin of all variations which are of importance for species-building must be sought in the germ-plasm. On this account special importance belongs to the subject dealt with in Prof. Strasburger's essay on "The Minute Structure of Cells in Relation to Heredity". Unfortunately this essay is so condensed as to be almost unintelligible by any one who is unacquainted with the work which it summarises.

The above essays have been selected for comment as suggesting points of interest in the formulation of the general theory of evolution. For the same reason mention should be made of the admirable account of "Darwin's Predecessors" by Prof. Arthur Thomson, and of Prof. Bateson's striking essay on "Heredity and Variation in Modern Lights". The other biological articles also are by writers of recognised authority, but in this notice they must be passed over in respectful silence.

The volume is enlivened by an essay on "Some Primitive Theories of the Origin of Man" from the pen of Prof. J. G. Frazer. It has

little to do with Darwin; but it is welcome here—as it would be anywhere—on account of the author's unrivalled learning and brilliant style. The remaining contents of the volume are concerned with topics which illustrate Darwin's influence beyond the field of biology. Prof. Lloyd Morgan deals with "Mental Factors in Evolution" in a lucid and judicious way. Prof. Bouglé writes on "Darwinism and Sociology"—an interesting but somewhat thin article. Mr. Giles discusses Evolution and the Science of Language. Prof. Bury's essay on "Darwinism and History" is not only valuable in itself but might well be taken as a model contribution to a volume of this kind. There are also two essays on Darwinism and Religion, written from opposite points of view. I fear it must be said that neither of these essays adds to the scientific value of the book; and this is the more to be regretted because the subject is capable of scientific treatment. The volume closes with two essays of a very different character—one on "The Genesis of Double Stars," by Sir George Darwin, and another on "The Evolution of Matter," by Mr. Whetham. Both these essays are of very great interest. As a reader I feel indebted to their authors. At the same time, as a reviewer, I am bound to point out that they cannot be taken as illustrative of Darwin's influence. Mr. Whetham as good as acknowledges this; and Sir George Darwin's attempted defence of their relevancy goes a very little way indeed. Sir George Darwin compares the process of "exchanges of stability" in cosmic evolution with the transitions between one relatively stable form and another which may be observed in political and in organic development; and he argues that this is "no mere fanciful analogy but a true homology". The analogy is certainly not fanciful; but, because it is true, it does not follow that it should be called a homology. The term, however, is unimportant. What is essential is the kind of causation implied in the processes. And this is different in the two cases. Organic evolution takes place only through the operation of causes which are entirely absent from cosmic evolution. And when the two processes are assimilated it is by ignoring their different types of causation.

I have left to the last the essay on "The Influence of the Conception of Evolution on Modern Philosophy," by Prof. Höffding. In this contribution the author gives a finely conceived appreciation of the philosophical importance of the new ideas tempered by critical insight into their limitations. There is only one point on which I am inclined to express disagreement with the writer; and, as it is a very small matter, it may be mentioned at once. He represents Darwin as more prescient than in all probability he was of the philosophical revolution he was about to produce. To say that Darwin "saw from the beginning that his hypothesis would occasion a 'whole of metaphysics'" is misleading. The early note in which Darwin used the phrase quoted makes it pretty clear that he used the term 'metaphysics' in the popular way in which it was

commonly used at the time for what is now called psychology. It would have been surprising indeed to have found Darwin in 1837 using the term 'metaphysics' with the meaning which it conveys to Prof. Höffding or his readers.

After distinguishing the conception of evolution which is prominent in Hegel and other idealist philosophers from the modern scientific conception of a real process in time called by the same name, Prof. Höffding goes on to characterise in clear though brief language the use made of the latter conception in the systems of Spencer, Wundt, Fouillée, Ardigò, Boutroux, and Bergson. He then proceeds to point out that the theory of evolution, like every other theory, presupposes the principles and forms of thought and neither gives them their validity nor can take it away. "But," he goes on to say, "there is another side of the problem which is, perhaps, of more importance and which epistemology generally overlooks. If new variations can arise, not only in organic, but perhaps also in inorganic nature, new tasks are placed before the human mind. The question is, then, if it has forms in which there is room for the new matter. We are here touching a possibility which the great master of epistemology did not bring to light. Kant . . . seems to be quite sure that the thing-in-itself works constantly, and consequently always gives us only what our powers can master. This assumption was a consequence of Kant's rationalistic tendency, but one for which no warrant can be given. Evolutionism and systematism are opposing tendencies which can never be absolutely harmonised one with the other. . . . And here," continues the author, "Darwin has contributed much to widen the world for us. He has shown us forces and tendencies in nature which make absolute systems impossible, at the same time that they give us new objects and problems."

There is much food for reflexion in this remark, and yet its exact significance is not quite clear. In one sense of its terms it is not only true but obvious. Experience is always providing us with fresh material which it is difficult to fit into the old forms. In this way the variations which Darwin welcomed as an evolutionist were "odious" to him as a systematist. Things do not fit nicely into the pre-arranged classes. We have to modify our classification or even to modify our conception of what constitutes a class. The theory of evolution has had a marked effect of this kind. But does it penetrate more deeply to the fundamental categories of thought? A "closed system" may be impossible simply because and in the sense that experience is never complete. But in this sense no one expects to arrive at a closed system. The question is rather whether we are to contemplate the possibility of the emergence of facts entirely alien to the universal forms of thought—for example, of the law of causality. Something of this sort is suggested in the beginning of Prof. Höffding's paragraph; but in its closing sentences he refers only to the ordinary scientific difficulty of

systematising new material. Anything further—any emergence of material not subject to the causal or other fundamental laws of knowledge—would destroy the evolution-theory itself, for it depends upon these laws.

In the case of ethical, as in that of epistemological, ideas Prof. Höffding refuses to allow validity to be determined by origin. "To every consequent ethical consciousness," he says, "there is a standard of value, a primordial value which determines the single ethical judgments as their last presupposition, and the 'rightness' of this basis, the 'value' of this value can as little be discussed as the 'rationality' of our logical principles." In working out this position the author makes a number of judicious remarks. Insight and sagacity are indeed the characteristics of the whole essay which is an indispensable supplement to the more special scientific articles in the volume.

W. R. SORLEY.

The Meaning of Truth, a Sequel to Pragmatism. By WILLIAM JAMES. London and New York: Longmans, Green & Co., 1909. Pp. xxii, 298.

PROF. JAMES'S new book is a document which will be of the greatest importance to future historians of Pragmatism. For it represents his contribution to the great Pragmatic Controversy, and republishes in a convenient form the scattered work by which he prepared for, supported and followed up the constructive exposition given in his *Pragmatism*. But it also does more; it enables the student to follow the process by which the pragmatic conceptions actually grew up in a first-class philosophic mind. And this is a very interesting and fascinating process to watch, though, like all psychological study of a concrete mind, it brings out some surprising results.

The book is composed of articles and papers, of different lengths and dates, ranging from 1885 to 1909. Nearly all have been published before, but many of them in American periodicals not conveniently accessible in this country. The whole collection has general relevance to the epistemological controversy, but it would be too much to expect of it either strict unity of subject or complete unity of doctrine. It has to be read critically and in a historical spirit, and with attention to the elucidations which Prof. James has now (all too sparingly) added to some of his earlier statements.

But the book abounds with points of interest, as well as with characteristic felicities of phrase. Historically the most interesting papers are the two first on the 'Function of Cognition' and the 'Tigers in India,' which between them explain the genesis of Jacobean pragmatism. The essay on 'Humanism and Truth' (the reply to Mr. Bradley's first attack) stands out among the rest for brilliance and breadth of handling, while the preface and the essays

on 'Julius Cæsar' (historical truth) and the final 'Dialogue' are particularly lucid and effective in clearing up misconceptions. On the other hand some of the papers (especially Nos. viii. and ix.) contain apparent concessions and sops to realism, which might distress a stalwart pragmatist, if he did not read them in the subsequent light of the explanations given in the review of M. Hébert (No. xii.).

It is well therefore to point out how extremely subtle is Prof. James's controversial method. He always envisages his critic as primarily a human being and not as a heap of bad syllogisms. He asks himself, 'How can I bring my point home to this man's mind?' Hence his psychological sympathy is ever trying to share the hostile standpoint, and, by starting thence and adopting the critic's phraseology, to carry him over to his own. The drawback is that a too careless or biassed reader will accuse Prof. James of inconsistency.

Secondly, Prof. James's controversial style is specifically adapted to the American taste. It is broad, generous and general. It prefers to answer objections tacitly and implicitly, rather than to nail down misrepresentations by formal references. This method is consonant not only with Prof. James's predilections but also with the American temper and the actual course of the Transatlantic controversy. Criticism in that country, with a few brilliant exceptions that were really based on adequate study and a desire to understand, such as that of Profs. C. A. Strong and J. B. Pratt, has exhibited far too much of a 'general-impression'-ism, which was insufficiently 'documented,' and when it condescended to citation became so inaccurate as to amount to garbling, while not infrequently it revealed an astonishing looseness of reasoning and flabbiness of thought. The critic's philosophic eye had evidently grown presbyopic. In England on the other hand myopia was its prevalent defect. It hardly ever seemed to see the connexion between two consecutive sentences in the texts it wandered over, and frittered itself away in niggings and quibblings of a 'dialectical' kind. It is evident that Prof. James's apologetics are not at all well fitted to pacify critics of this sort, just as the Americans have not the patience to follow closely the point-to-point confutations which the British methods demand.

Even as regards America, however, Prof. James seems often to be reduced to something like despair (*cf.* pp. vii, ix-x, 135, 136-137, 160, 180-181, 216, 225). He seems to be astonished to find how incorrigible are the old misinterpretations, and hurt that his renewed and repeated explanations fall upon deaf ears. But has he not in the abundance of his own (more than Christian) psychologic charity here forgotten the relevance of his own doctrine of the will to believe? Is he not accepting without discount rationalism's claim to be an exercise of pure reason! Is he not assuming a universal willingness to be guided by reasoning, and ignoring the psychological motives that are masked behind the array of 'logical'

arguments? Surely if ever there was a doctrine which summoned the professional bias of technical philosophers to resist, to denounce, to misrepresent, and if possible to suppress it, it was the method of pragmatism and the principle of humanism. The astonishing thing is not that there should be irreconcilables who persist in flinging mud from the last ditch, but that in ten years so much progress should nevertheless have been made, that Prof. James's popular appeal *urbi et orbi* should have been so successful in forcing the hands even of the most obdurate despisers of common intelligibility.

Prof. James appears to regret also at times his tactical error in adopting the term pragmatism (p. 184). He admits that it suggests a false antithesis to 'theory' and a 'one-sided' insistence on practicality. But he does not mention what is perhaps a still more serious drawback, *viz.* that it condemns every exponent of pragmatism to consume at least half an hour of his limited time in explaining the word.

Now it is often said that if once a falsehood gets twenty-four hours' start, all the truth in the world cannot catch up with it. This I find to be a gross exaggeration. The half-hour start which misconception obtains by the use of the word 'pragmatism' is quite enough to render many minds totally impervious to the laggard truth which can never overtake it.

Another of Prof. James's preoccupations is to assert the solidarity of the leading pragmatic doctrines (pp. xvii, 135, 169, and especially 242-245). Yet at times he does not seem quite certain how far Prof. Dewey agrees with him (pp. xix, 234), and *prima facie*, there seems to be considerable divergence between his habitual modes of statement and mine. It is because I believe Prof. James's assertion of their fundamental identity to be really justified that an explanation of the apparent discrepancy seems to be requisite.

This discrepancy concerns chiefly the place of the 'real object' in epistemology. There is a strong realistic strain in Prof. James's thinking which makes him anxious "to refute the slanderous charge that we deny real existence" (p. xv), and is of very old and prepragmatic standing. Unlike other pragmatists, who have bowed down to Baal, or at least have trafficked with his priests, Prof. James would never have submitted to be called an idealist even *κατὰ πρόθεσιν*. This appears clearly from the first two essays in this volume. At the same time his realism was always of the common-sense order, and the paper on the 'Essence of Humanism' (especially pp. 130, 133) shows clearly enough that it does *not* mean a pragmatically unimportant, and even unmeaning, belief in any transcendent, trans-experiential reals such as, for some inscrutable reason, metaphysical realism is determined to postulate.

Yet it is not merely his desire to repudiate the charge of 'subjectivism' and his desire to stand well with the realists, which lead Prof. James to lay what seems disproportionate stress on the question whether a pragmatist can believe in 'real objects'. For intrinsically this is not a question which, *as put*, need have been

answered at all. It should have been countered by the question—‘What do you mean by “real objects”?’ For it would then have appeared that ‘real object’ was an ambiguous term, and that the question rested on a confusion.¹ It is impossible to say what the critics mean by it. Do they mean the formal ‘independence’ of the object of thought? Or do they mean existence in the physical world? If they mean the former, it is equally silly to suppose that any theory of knowledge (even a solipsist’s) could deny its existence, and to suppose that it has any bearing on the real existence of (physical) objects. The formal ‘object’ is simply irrelevant. The wildest fancy, the most subjective feeling, the most transparent hallucination, are all of them ‘objective’ and ‘independent’ in this formal sense. Its use therefore has not the slightest discriminative value within epistemology. On the other hand if existence in any real world be what the ‘object’ means to refer to, the question becomes simply one of the testing of a *claim* to reality. And however ‘real’ an ‘object’ may be believed to be, it may turn out to be ‘unreal’ and illusory. Every truth-claim has, logically, to be tested, and its value can only be determined, pragmatically, *i.e.* by its consequences.

But this does not raise any special question about real existence. Every truth-claim is, as a matter of course and of form, a *claim* to reality; a claim to reality is simply the objective aspect of a claim to truth, simply because judgment as such aims at being about reality. But all sorts of ‘objects’ have reality, of various sorts, and the critical question is—‘Does our “object” have the kind of reality it claims, or another?’ In answering this question we (ontologically) sort out the different orders of reality, (logically) test the original truth-claims and (psychologically) determine their real meaning. All this in one and the same operation. What more is there? It may be that there is nothing more, *i.e.* no metaphysical *problem*, but only a metaphysical *illusion*. It may also be that there is a further problem to be solved by an independent metaphysical inquiry: this need not dogmatically be denied, but it is clear at any rate that it has to be stated far more lucidly and unequivocally than has yet been done, before it can be profitable to discuss it. In either case the epistemological problem cannot be shirked; it has to be solved before any further questions can be raised.

As matters stand I confess that the problem of ‘real existence’ as ordinarily conceived by metaphysics seems to me simply a confusion. It confuses real existence and formal objectivity. If instead of asking critically—‘Are you really thinking the object you tried to think about? Is your meaning real and no illusion?’ we are content to ask—‘Is the object you are thinking an ultimate reality?’ we can easily glide over from epistemology to metaphysics. But we then (1) burke the question of meaning, *i.e.* of the assertion’s

¹ Cf. the *Aristotelian Society’s Proceedings* for 1908-9, p. 95 foll.

success in attaining the object it aimed at; (2) we beg the question of the object, by assuming that certainly there is a real object and there can be no mistake about it; (3) we render ambiguous, and therefore unanswerable, the question as to whether humanism can afford to 'recognise the real existence of objects'.

The plain straightforward answer of humanism consists in pointing these things out, and denying that it has any concern with such pseudo-problems at all. It will reply to its critics—'When, gentlemen, you can make up your minds what your question means, we will plunge with you (if need be) into the abyss of metaphysics; until then let us at any rate get clear as to how we test our knowledge of anything whatsoever!'

It must be admitted that this plain humanist answer is not made clear in Prof. James's book. He even seems to countenance the confused rationalistic putting of the question. But his reason has nothing to do with the epistemological merits of the case. He does not sufficiently frown on irrelevant excursions into metaphysics, because he is too much interested in metaphysics himself. He has an excellent metaphysic of his own, which he calls Radical Empiricism, and will not ruthlessly suppress; so allusions to it are allowed to ooze through into his epistemological discussions.

Not that in itself there is any harm in this. Probably every one who thinks at all has a metaphysic of his own somewhere up his sleeve. Only this metaphysic is irrelevant, so long as we are trying to discuss the strictly logical question as to how a true judgment may be distinguished from a false and a real object from an unreal.

I cannot, for this reason, altogether accept Prof. James's description of my own contributions to the logic of humanism as strictly psychological (p. xviii). It is true that I have insisted that the logical problem starts in psychology, and that attempts to purge logic of all reference to the personality of the thinker only reduce it to an empty verbalism. But this is not to acknowledge a higher realm of logic, upon which humanist epistemology dares not intrude; it is really to challenge the claim of the traditional logic to mean anything at all. On the other hand Prof. James's remark that his account of truth (pp. 244-245) is more 'logical' because it defines truth as a relation to a real object postulated to be there, seems a hard saying. For what is the use of postulating a real object, apart from any means of testing whether it really is there? What is the use of a definition, if it cannot be applied? And finally does not this encourage the old logic's delusions that a definition may be none the worse for being inapplicable? And why should logic be identified with its intellectualist perversions? Not even Prof. James's master hand can use with impunity the thoroughly confused language of a falsely abstract standpoint.

There is no reason then why Prof. James, or any one, need be ashamed of putting their trust in psychology. To doubt the validity of the abstraction from psychology which is traditional in logic, is

the essence of humanism. And nothing is more surprising than the lack of references by Prof. James to his own great *Psychology*, seeing what an inexhaustible fountain-head of pragmatic inspiration this epoch-making work has been to others. Its author never mentions it, and never clinches an argument by an appeal to the authority of psychology. He knows no doubt how greatly anti-pragmatists dread and detest allusion to psychology; but that he should indulge them only shows that he is too lenient a controversialist. But perhaps this should only endear *the Meaning of Truth* all the more to lovers of philosophy.

F. C. S. SCHILLER.

The Psychology of Thinking. By IRVING EDGAR MILLER, Ph.D.
New York: The Macmillan Company, 1909. Pp. xxv, 303.

THOUGH Mr. Miller refrains from affixing any label to himself, this need not hinder us from acclaiming his book as a valuable contribution to humanist literature. The absence of the label is consonant with the author's entirely non-controversial method, and is significant as indicating that, in the opinion of this writer at least, it is no longer so necessary as formerly to maintain a fighting attitude when advancing pragmatist ideas. But on this side of the Atlantic it will probably be some time yet before humanism can enter on the purely industrial stage of its evolution and withdraw its armed forces from the frontier.

The author's standpoint is clearly indicated in the preface:—

"The dominant point of view for the discussion of thinking within these covers is frankly biological. But it is biological in the broad sense. Life is not thought of as reduced to its lowest physical terms, but as inclusive of everything that makes life worth living. The life process is thought of in terms of the satisfaction of needs in the case of man as we know him at his present level of evolution and civilisation. The concrete life of the individual includes all that we regard as of value, or worth while, in the complex life of the highly evolved, socialised, and civilised human being. The attempt has been made to show . . . the growth in control over the forces of the world and of life that comes through the development and perfection of the higher psychical processes which we designate under the head of thinking. In this discussion the emphasis falls upon the psychological rather than the logical aspect. . . . While the movement of thought is dominantly psychological, the whole book is written from a strong pedagogical bias" (pp. vii-viii).

By the subtle stroke of entitling his book *The Psychology of Thinking*, Mr. Miller has forestalled those critics who, if he had called it a Theory of Knowledge, would assuredly have raised the question-begging cry that he had mistaken psychology for epistemology. Having thus secured for himself a peaceful start, he pro-

ceeds to build up what is in effect a very powerful indictment of the abstract distinction between psychology and logic. As commonly understood, this distinction is based on, and expresses, the assumption that it is both desirable and possible to dissociate the consideration of conscious processes in the individual mind from that of their cognitive value. From the side of logic this assumption is exposed to the fatal objection that in abstracting from time and personality we abstract from the conditions which alone make the distinction between truth and error intelligible and serviceable. The psychologist now joins hands with the modern logician by tunnelling from the other side through the artificial barrier which 'idealists' would persuade us represents the final creative act of the Deity.¹ In studying thought as a biological function, he is concerned to estimate its biological value. It is found to be valuable just so far as by issuing in knowledge of the environment it enables the individual to control his destiny.

When Mr. Miller, with admirable guile, admits "a strong pedagogical bias," he is perhaps hinting that society subsidises the dissemination of knowledge more because (rightly or wrongly) it is persuaded of the fundamental utility thereof than because it charitably wishes to "find employment" for learned men. But he is also suggesting an identification of the problem of knowing with that of learning. Now learning is admittedly a process in which no human being has as yet attained finality. We are thus gently led to perceive that there is, after all, nothing so very paradoxical in the claim that cognitive value (*a*) is not unrelated to practical value, (*b*) does not exclude the possibility of improvement in knowledge.

Mr. Miller smooths the path for his readers by making his main point quite early in his book.

"The human being exercises control over the environment in the process of satisfying his needs not by using methods of reaction which are determined wholly in their organisation by heredity, but [by methods of reaction] which are subject to great modification by consciousness. In so far as consciousness is the dominant factor in the determination of motor responses, the control is *individual* rather than racial in character. Even where modes of control are the same among human beings, yet they may be highly individual in character. Their form is not determined by heredity, but by the solution of the same problem in the same way. . . . Racial control brings about adjustments which meet only general classes of needs common to all the members of a certain species; individual control is more varied, bringing about greater delicacy of adjustment to meet the needs which are peculiar to the individual" (pp. 42-43).

¹ It is perhaps worth while to point out that the absolute distinction between logic and psychology is one and the same with that absolute distinction between the Eternal Consciousness and the human mind, in which Green's attempt to identify these two "aspects" of consciousness finally defeats itself.

There is an instructive contrast between the view advocated by Mr. Miller and that of Spencer.

"The Spencerian formula makes evolution consist in the process of more perfect adaptation of the inner factors to the outer, in other words, of the adaptation of the organism to the environment. . . . We have practically reversed the Spencerian formula and made evolution culminate in the attainment of control of the organism over the environment, in other words, the adaptation of the environment to the organism. This is made possible through the functioning of the conscious processes, which reach their culmination in the thinking of man" (p. 45).

There is one passage which mars the general consistency of Mr. Miller's book. This is the passage (pp. 94-96) where he says that the distinction between means and end is "a practical distinction only". Why "*only*"? If concrete thought, as "the process of consciously adjusting means to end in problematic situations" (p. 97), is in this sense practical through and through, it follows that *no* distinction can be more than practical; while any distinction which claims to be less than practical (*i.e.* merely "theoretical") stands confessed as meaningless.

The ground of Mr. Miller's strange uneasiness about the "philosophical" standing of the distinction between means and end, seems to be that the purpose for which the distinction is applied in particular cases may be a fleeting one. If this is the right interpretation of his meaning, it would seem that Mr. Miller has here unaccountably fallen a victim to the intellect-paralysing demand of intellectualism that A shall be *always* A, irrespective of the actual context. It is to be hoped that in the second edition which this excellent book should certainly reach, Mr. Miller will rectify this wanton abandonment of his fundamental position. But apart from this lapse, the humanist position, that thought is essentially purposive and personal, is clearly put and ably defended.

Special attention should be directed to the excellent chapters dealing with the nature and function of concepts, or universals, which chapters, in the nature of the case, are of central importance in his argument. Mr. Miller brings out very clearly and convincingly that concepts are not immutably fixed (p. 204). But it is perhaps a pity that his rigorously non-controversial method should make him abstain from raising the question of *what sort of meaning* attaches to the apparently contradictory position of philosophers like Green. The answer, I take it, is that such philosophers, owing to their failure to appreciate the philosophical problem of application, do not distinguish between the formal "timelessness" of universals and real immutability. They are never troubled by the reflexion that, just as the formal objectivity of objects is no guarantee that any particular object is real, so the formal "timelessness" of universals is no guarantee of their utility or truth, and cannot therefore shut out the question whether any given uni-

versal would not, in point of fact, be the better for a change. Hence the "immutability" which platonising philosophers assert of universals is the artificial immutability produced by abstracting from the consideration of logical value. The platonic view is not logic, therefore, in any worthy sense. It is simply formal psychology. Our only concern with it as logicians is to recognise its *irrelevancy* to the problem of truth. We need not *deny* to truth that peculiar brand of "eternity" which it shares with error. In fact, the difference here between intellectualism and humanism is a difference not of opinion but of standpoint. Intellectualism restricts itself to a consideration of the purely formal aspects of "truth," while humanism is interested in the distinction between truth and error.

HOWARD V. KNOX.

Voraussetzungen und Ziele des Erkennens : Untersuchungen über die Grundfragen der Logik. Von JONAS COHN, Ao. Professor an der Universität Freiburg I. B. Leipzig : Verlag von Wilhelm Engelmann, 1908. Pp. viii, 526.

PROF. COHN always brings a light peculiarly his own to any problem that he discusses. And this volume is an advance on his previous work both in penetration and in extent of range. In view of his earlier preoccupation with the problem of infinity, it is probably to the chapters on number, geometrical axioms, continuity and the like that attention will be first attracted. On the notions that we associate with the names of Dedekind, Frege, Kronecker, Hilbert and the rest—with all the authors in short that belong to the nightmare of baffled enthusiasm when in our discouragement the motto of Plato's Academy seemed to transmute itself into that inscribed by Dante over another place—Dr. Cohn offers competent and luminous criticism. Perhaps one or two discussions may be regarded as outstanding, that, *e.g.*, on Cantor's account of continuity, and some on Mr. Bertrand Russell's *Principles of Mathematics*. A favourable specimen is that on page 167, beginning *Man sieht leicht dass Russells sorgsame Definition nicht "ein" sondern "nur ein" definiert*, where, by the way, the one-one relation takes shape as *eineindeutige Zuordenbarkeit*.

But there is much else in Prof. Cohn's book that is less 'caviare to the general'. He disclaims indeed any pretence of offering a system. That would be, he holds, perforce an inadequate projection in one plane of a reality which has many facets. But he supplies studies contributory to the one system from several sides, which he believes to converge in their results. Some of these embody the philosophy—non-dogmatic—of a mature thinker.

In the theory of knowledge his treatment of the circle which is inevitably involved is highly suggestive in character. The goal is in some sense pre-supposed. The reality with which we begin has

in some sense still to be realised. What the world is to the trans-individual *ego* is somehow at once presupposition and goal of knowledge. With this connects closely the whole interpretation of the subject-object relation. This is neither to be reduced to a meaningless tautology nor yet advanced to be a fruitful source of fallacies. There are both form and content in knowledge, thought and an element alien to thought. These are not separable but they are distinguishable. The inseparability constitutes immanence. The distinguishableness involves *Utraquism*, i.e., a duality which shall carry with it none of the historical associations of the term Dualism.

Dr. Cohn's Utraquism determines, or closely coheres with, his attitude towards 'the theory of the object' and to the form of the relational calculus. This part of his work owes much to Mr. Russell. In fact the more technical portions of Prof. Cohn's logic may be characterised as a very acute rethinking of the contents of the 'logic' of Mr. Russell and his forerunners, with the epistemology of the 'super-individual *ego*' for frame of reference. The mathematical inquiry is more independent of Mr. Russell, but there too the antithesis of form and content which is the salient feature of Utraquism serves as clue to the mathematico-logical labyrinth. So, for example, the multidimensional systems are considered in the light of a formula as to *Minimum der Denkfremdheit*.

Prof. Cohn is one of those writers from whom we must take what he is prepared to give. It may, perhaps, be permitted us to hope, however, that on some future occasion he may develop the less formal and less mathematical part of his speculations for the benefit of the uninitiated. It is somewhat to be feared that the theory of knowledge, the contribution zur *Kategorienlehre*, and the doctrine of teleology contained in this book, though of a highly stimulating nature, and, as the author says (Pref., p. v), intelligible by themselves, may be overshadowed by the more technical sections that accompany them. And *a fortiori* the critical insight exhibited in remarks of a less specialised kind scattered generously throughout the book—there is a typical instance on page 349, dealing with the cause of the specific difficulty of Psychology. This would be a misfortune. Yet in this book at least he could ill have afforded to sacrifice die *Ausführungen über Philosophie der Mathematik* which are zur *Begründung meiner Überzeugungen durchaus notwendig*.

HERBERT W. BLUNT.

VII.—NEW BOOKS.

Proceedings of the Aristotelian Society. New Series, vol. ix. Containing the Papers read before the Society during the Thirtieth Session, 1908-9. Williams & Norgate, 1909. Pp. 259.

THESE Proceedings open with an echo of the discussion on Mental Activity with which the previous volume closed. In his presidential address—'Mental Activity in Willing and in Ideas'—Prof. S. Alexander upholds his contention that consciousness consists in conation or activity operating in a variety of directions, and that what is called the content of a mental process is not itself mental, but in every case physical. This position he proceeds to test by application to the special cases of volition and ideation. Whether in willing an end or in thinking a universal, consciousness exists only as a system or a scheme of directions (tendencies): the content or object is non-mental. An appendix follows applying the principle to the case of self-knowledge. Along with this first item in the volume may be taken the last, which is a reply by Prof. G. F. Stout entitled 'Are Presentations Mental or Physical?' After defining the issue, he puts forward reasons, both general and special, for denying that presentations are physical, and concludes with positive reasons for regarding them as psychical. The trend of the argument is that consciousness cannot be simple awareness of physical existence, and that sensation or presentation cannot be distinguished as purely objective from conation and feeling as subjective. In a contribution on 'Bergson's Theory of Knowledge' Mr. H. W. Carr notes its distinction from pragmatism; shows its relation to the principle that reality is change, activity, development; considers its origin and implications, and gives a brief criticism and appreciation. A reply from Prof. Bergson to the criticisms is quoted. The next item is a Symposium, by Prof. B. Bosanquet, Mrs. Sophie Bryant, and Mr. G. R. T. Ross, on 'The Place of Experts in Democracy'. A distinction is taken between two orders of expert—the specialist adviser and the statesman or ruler. The relation of the modern democratic constitution to Plato's ideal State, the nature of the selection and training of the administrator, and the connexion of democracy with mediocrity are considered. Treating of 'The Rationalist Conception of Truth' Mr. F. C. S. Schiller advocates pragmatism on the ground that the 'independence' of truth would make it unverifiable, and that the 'transcendence' of the object of knowledge is wholly pragmatic or immanent—relative to the experience which it serves to organise. Humanism is the only alternative to scepticism. Mr. H. Foston's paper on 'The Mutual Symbolism of Intelligence and Activity' maintains that the intellectual and the active consciousness are two different ways of regarding change—as consisting of definite states, or having a definite structure, and as giving scope for effort and opportunity. Each is complementary to and symbolic of the other,

but a positive reconciliation between them is impossible. They unite only in suggesting an ideal aim. Ultimate reality is accordingly synonymous with ultimate reliability. Then comes 'The Satisfaction of Thinking' by Mr. G. R. T. Ross. Defining thinking as the synthetic function of mind, i.e., that which introduces order into experience, he contends that, since the existence of thinking must be due to the satisfaction with which it is accompanied, the real must be the content of the experience of order. This criterion is illustrated, objections to it are met, and its implications are indicated. Mr. A. Wolf discusses 'Natural Realism and Present Tendencies in Philosophy'. Noting the marked realist tendency in present philosophic discussion, he goes on to argue that in normal perception (and also in abstract thought) consciousness is (or may be) transparent process without accompanying content; while memory, imagination, hallucination, etc., involve both mental process and mental content. It is claimed that only on this view are both knowledge and error possible. A concluding section asserts 'the independence of truth' against the pragmatist doctrine. This is followed by 'Why Pluralism?'—a Symposium by Messrs. J. H. Muirhead, F. C. S. Schiller, and A. E. Taylor. The discussion as a whole is somewhat complicated, having no single definite issue. The most outstanding and significant point is the argument in Prof. Taylor's paper (especially pp. 211-215) for the existence of God as 'the actual embodiment of the unity of plan or purpose in virtue of which the Absolute whole is a whole,' and yet 'not identical with the Universe or Absolute'. It should perhaps be stated that one paper—Dr. G. F. Goldsborough's on 'Some Implications of Recognition'—which had to be omitted from the volume on account of its length, has been published separately by the author. Anyone interested in the present-day problems of philosophy should find these Proceedings valuable and suggestive reading.

T. M. F.

Psychology Applied to Legal Evidence and Other Constructions of Law.

By G. F. ARNOLD, I.C.S. Officiating Deputy Secretary to the Government of India, Legislative Department, and late Acting Divisional Judge, Burmah. Calcutta: Thacker, Spink & Co.

The author of this book is an Indian civilian whose experience of the difficulties of the administration of justice by a European magistrate to an alien people has brought vividly to his consciousness the unsatisfactory nature of the conventions and fictions by means of which lawyers seek to simplify their tasks. These fictitious short cuts to "justice" may be comparatively innocuous so long as the lawyer is dealing with his own countrymen; for then the application of legal theory is constantly modified by the practical good sense of judge and jury; but when an Englishman has to administer the law in an Asiatic community his practical knowledge of human nature is less adequate to its redeeming task and the absurdities of the law result too often in glaring injustices; a fact sufficiently illustrated in this book by the citation of instances. The author therefore has the hardihood to suggest that both lawyers and the law might be rendered more efficient instruments of justice if they would cease to ignore the results achieved by modern psychology and would substitute modern science for the misleading popular psychology which most lawyers are content to apply and for the psychology sanctified by the lapse of centuries which is recommended to them by their most enlightened text-books. As one example of the application of popular psychology may

be cited the case (p. 70) of a man who had killed another in a drunken brawl and was convicted of murder; the learned judge argued that "If actual knowledge and experience do not do so, *instinct* at least tells every man that to hit another human being any violent blow on the head may possibly result, or is likely to result, or will probably result in serious injury to the person struck". Would it be too much to say that this man's life was sacrificed to the gross and culpable ignorance of psychology on the part of the judge, who regarded "*instinct*" as capable of exercising these remarkable functions and that in spite of an advanced degree of alcoholic intoxication? Moved by considerations such as these the author has made himself familiar with the best modern works on psychology, and in the light of the knowledge so acquired discusses a large range of legal problems, criticising very effectively and outspokenly both lawyers and the law. Although most of the illustrative cases are drawn from the practice of the Burmese courts in which the inadequacies of the accepted legal fictions and dogmas are, no doubt, more glaringly obvious to the lay mind than in some other civilised tribunals, most of the discussions have their bearing upon the administration of justice in this country; and it is difficult to suppose that any lawyer could read the book without profit. But, though Mr. Arnold's task has been admirably conceived and executed, it is to be feared that he is calling to deaf ears and that some centuries must roll by before the teachings of present-day psychology can acquire such a degree of respectability as will recommend them to the notice of the legal mind.

It is noteworthy that, while this voice from the Far East pleads for the admission of psychology to a place among the lawyer's preparatory studies, there comes from the West in the authoritative tones of Prof. Münsterberg the demand that the psychological specialist shall be called in to aid the courts of law in the obtaining and in the valuation of evidence.

W. McD.

The Meaning and Value of Life. By RUDOLF EUCKEN. Translated by Lucy Judge Gibson and W. R. Boyce Gibson. London: A. and C. Black, 1909. Pp. xi, 157.

This little work, it seems, has had a large sale in Germany, and in virtue of its simplicity and directness of statement is fitted to appeal to thoughtful readers who have no special training in philosophy. Eucken here seeks to commend his system as a solution of the spiritual problems which are pressing on the present age, and as an antidote to the doubt which threatens to sap its vitality. Broadly speaking, we find two answers to the general question at issue—an older and a newer. The older has two forms: in the one case we have the solution of the life-problem supplied by the traditional religion, and, in the other, the solution put forward by the modern Immanent Idealism. Neither of these, Eucken holds, is capable of satisfying the mind of the age. Religion, in its ecclesiastical garb at least, instead of being an answer has itself become a question. Immanent Idealism is in no better way: "Its foundations have been shaken, and the life based on them has not the force and depth which are indispensable to sovereignty". Accordingly the later endeavour has been to find the meaning and value of life in the sphere of secular culture dominated by realistic interests and passions. But this realistic culture, where the spirit of self-conservation rules and spiritual values are at best secondary, despite its outward ostentation is inwardly empty. As Eucken reads the signs of the times, "humanity is under-

going a profound disillusionment". Yet behind these struggles and confusions a nascent life, rich and full of promise, is seeking to realise itself. This is the Independent Spiritual Life, appropriated but not created by us; the Life which alone can build up the personal character and the social whole, and show the meaning and value of things in right perspective. Not by abstract reflexion but through the inward shaping of this Life, does man win the victory over his doubts. Finally Eucken indicates three ways in which his philosophical message may be practically helpful. "In the first place, it should increase our discontent with the life of mediocrity; in the second place, it should help us to draw through the confusions of our social life clear dividing lines; and thirdly, it should offer us a standing-ground where we can seek to rally our forces."

The foregoing epitome will show that Eucken writes with a direct eye on the spiritual needs of the time. We have not compared the translation with the original; but it reads exceedingly well, and has been revised by the author himself.

G. G.

The Ethical End of Plato's Ideal Theory. By FRANCIS A. CAVENAGH. Henry Froude, Oxford University Press, 1909. Pp. 89.

A dissertation for the degree of M.A. at London. The author rightly dwells on the ethical significance of Plato's theory, but his general views about the development of Plato's thought and his attitude towards other philosophers seem to me in the main neither true nor supported by serious evidence. Any interpretation which requires us to believe that Plato regarded Socrates as one of the self-deceivers who mistake their "opinions" for "knowledge" is *prima facie* so irrational that it ought not to be entertained without overwhelming proof. Mr. Cavenagh's reconstruction of the teaching of Socrates is vitiated by an obvious "circle in the argument". Certain positions, it is said, cannot be Socratic, because we do not find them in the purely "Socratic" dialogues. But which are Plato's purely "Socratic" works? Those which do not contain "non-Socratic" ideas! If you once allow *e.g.* that the *Gorgias* is "Socratic," Mr. Cavenagh's whole theory goes to pieces in a moment. Mr. Cavenagh is so anxious to depreciate Socrates that he scornfully charges those of us who believe that *e.g.* the *Phædo* is a faithful reproduction of the ideas of Socrates with holding that the philosopher's companions took stenographic notes of his discourses. He appears to regard this as a *reductio ad absurdum*, though according to Plato's *Theætetus* it is precisely what some of them did. The essay is not without its value as an example of the paradoxes which we are forced to maintain if we refuse to accept Plato's picture of Socrates as in its main lines historically correct.

A. E. TAYLOR.

Pain: Its Causation and Diagnostic Significance in the Internal Diseases. By Dr. RUDOLPH SCHMIDT, Assistant in the Clinic of Hofrat Von Neusser, Vienna. Translated and edited by Carl M. Vogel, M.D., and Hans Zinsser, A.M., M.D. London: T. Fisher Unwin, 1908. Pp. 326.

This is an elaborate clinical study of pain. Every physician knows the immense importance of pain as a guide to diagnosis and treatment. One

of the classics of English medicine is Hilton's *Rest and Pain*, a study based on vast clinical experience and full of fruitful suggestions. The present volume is a systematic guide to the interpretation of every chief variety of physical pain so far classified in medicine. The written descriptions are supplemented by a series of beautiful diagrams. The book is of medical rather than of psychological or ethical interest; but even the psychologist and the moral philosopher would do well to study it in some detail, for to them ever afterwards the notion of pain will carry an infinitely richer and more definite content.

There are chapters on the sensation of pain; the functional modification of pain—by position, motion, pressure, food, drugs, and organic function; on topography in its relation to pain; the quality and time of occurrence of pains; the pains of the nervous system, including headache, neuralgia; pain of the organs of motion, of the digestive system, of the respiratory and circulating system, of the skin, etc.

The book is well translated and is admirably produced.

W. L. M.

L'Année Psychologique. Quinzième Année. Paris: Masson, 1909.
Pp. xii, 496. 15 francs.

Binet introduces this volume with an interesting survey of the year's work in psychology. In referring to work done on the mechanism of thought, he points out that the methods of investigation encouraged by Külpe, which have been called the Würzburg methods, might with good reason be called the Paris methods. The work of Binet and his countrymen on thought, both in its earlier and later forms, will surely not be neglected. Its quality and its persistence will indeed secure it an important place in any summary, historical or theoretical. But it is usually only the hostile critic who labels a method worthy of a lasting systematic name with a local ticket.

The main part of the volume is filled by two long papers by Binet and Simon. The first of these, "*L'intelligence des imbeciles*" (pp. 1-147), is a study of imbeciles in various lines of mental activity. An interesting passage on Thought (pp. 122-147) contains the statement (p. 128) that thought consists of three elements—a direction, an adaptation, and a criticism. "*Les insectes ont-ils la mémoire des faits*" (pp. 148-159), by Prof. F. Plateau, Ghent, concludes that "the drones and probably the other insects have no such memory". "*L'analyse des Rêves*" (pp. 160-167), by J. Jung, is in the very questionable style of Freud. The second of the papers by Binet and Simon is "*Nouvelle Théorie psychologique et clinique de la démence*" (pp. 168-272). Functional condition and state of development are distinguished, and it is shown, after broad survey of facts, that the imbecile's development is arrested generally, while the dement's functioning is broken down more or less irregularly. "*A l'affirmation vague et inexacte d'une diminution globale de toute l'intelligence il faut ajouter, et même substituer, la conception de fautes individuelles de fonctionnement, d'accrocs de toutes sortes, qui par leur multiplication abaissent le niveau intellectuel et qui présentent les deux caractères suivants: l'irrégularité, et l'énormité relativement au niveau des sujets*" (p. 247). The last passage of the paper contains a distinction between ideational and instinctive intelligence, and on pages 265-267 we find an interesting extension of Binet's views of the close relationship and frequent identity of feeling and idea. The life of senile dementia is still co-ordinated, through the preservation of the instinctive or feeling part of thought in spite of the great loss of

ideation. With regard to the amount of zeal devoted to the investigation of ideation by Binet, it is to be regretted that his view of the relation between feeling and thought is so uncritical and almost haphazard. "Le sentiment se présente dans une relation définie avec l'idée; idée et sentiment ne font qu'un; ce sont deux stades successifs du même processus; ce qui est une idée a d'abord été sentiment; et le sentiment, en évoluant, en se précisant, devient à la fois idée, mot et action; et sentiment, c'est la phase obscure et chaude: quand tout s'éclaire, devient plus compréhensible, et se rationalise, il se produit des idées" (p. 265). What is the justification of "du même processus"? What means have we of identifying mental material in two so different stages as feeling and idea?

"Les sensations gustatives," by Largnier des Bancelis, is a review of the literature of the subject, especially of recent work (pp. 272-299). As an introduction to a more complete and strictly experimental treatment of the work of several contemporary masters, Binet discusses in "Le mystère de la peinture" (pp. 300-315) the problems of colour and atmosphere and their just and adequate representation on a single coloured surface. This is followed by "La psychologie artistique de Tade Styka" (pp. 316-356). From an account given by his father it would seem that T. S. was colour-blind till the age of eight and became suddenly normal in his ninth year (p. 320). But, though Binet does not seem to recognise it, there can be little doubt that he is still colour-blind (*v.* p. 330, confusion of red and green, and p. 334: "le modèle a beaucoup plus de pigmentation, jaune et rouge, que la peinture," and p. 346: "S'il atténue la coloration rouge un peu partout, nous voyons qu'il l'avive aux lèvres. Il est une autre couleur dont il se préoccupe . . . pour l'exalter, c'est le bleu verdâtre"). This is doubtless the source of his wonderful pale flesh colours (p. 356).

"Psychologisme et sociologisme" (pp. 357-372) is a review of religious philosophy from these two points of view by Th. Ruysen. Finally we have again from Binet and Simon, on pages 373-396, "Pent-on enseigner la parole aux sourds-muets?" "Nous croyons bien qu'on s'est trompé sur la valeur pratique de cette méthode. Elle nous paraît appartenir à une pédagogie de *luxue* qui produit plutôt des effets moraux que des effets utiles et tangibles. Elle ne sert point au placement des sourds-muets, elle ne leur permet pas d'entrer en relation d'idées avec des étrangers, elle ne leur permet même pas une conversation suivie avec leur proches et les sourds-muets qui n'ont point été démutisés gagnent aussi facilement leur vie que ceux qui sont munis de ce semblant de parole" (p. 393). These are strong words which deserve attention.

A large number of notices and reviews close the volume (pp. 397-494); amongst these is a short paper by Poincaré on "L'invention mathématique" (p. 445 f.).

H. J. WATT.

"Die Melancholie, ein Zustandbild des manisch-depressiven Irreseins." *Eine Klinische Studie.* Von Dr. GEORGES L. DREYFUS, vorm. Assistenzarzt in der Psychiatrischen Klinik der Universität, Heidelberg. Mit einem Vorwort von Hofrat, Prof. Dr. Emil Kraepelin. Jena: Verlag von Gustav Fischer, 1907. Pp. ix, 329.

In his exceptionally careful and comprehensive monograph, Dr. George L. Dreyfus, one of Prof. Kraepelin's pupils at Heidelberg, subjects to a very detailed analysis and criticism Kraepelin's doctrine of melancholia. Briefly, Kraepelin's doctrine is that, distinct from manic-depressive insanity, there is a melancholia of advanced age, an involution melancholia, which is to be regarded as an independent disease. In a preface to the

present work, Kraepelin himself admits that Dr. Dreyfus has practically proved that this doctrine of melancholia is erroneous. Dreyfus's criticism is based on a most laborious history and analysis of some eighty cases, which had been diagnosed at the Heidelberg Clinic as melancholia. Of these cases, some were proved on dismissal not to be genuine melancholia, others were followed up in their after life, and Dreyfus's conclusions are based partly on the study of the cases within the asylum and partly on personal inquiry afterwards. What is the precise point of his contention? Kraepelin maintained that, in the advanced stages of life, there may occur a certain mental depression, which is not a part of the cycle of manic-depressive insanity, otherwise named circular insanity. But this mental depression or involution melancholia, unlike the depression of circular insanity, ends in mental enfeeblement. Dreyfus maintains that there is no such involution (or senile) melancholia as a separate disease, but that it is really a phase of manic-depressive insanity, even although the melancholia in question first appears in advanced age. How, then, account for the passing of such melancholia into mental deterioration (senile dementia)? He admits the fact, but maintains that it is due to arterio-sclerosis supervening in the course of the depression stage of a true circular insanity. What, therefore, is commonly named senile depression or senile melancholia, is either a phase of circular insanity occurring late in life, or a mental enfeeblement due to arterio-sclerosis. The full histories of the cases examined certainly seemed to support this conclusion. It may be wondered why so much stress should be laid on what seems a very elusive difference of diagnosis. But the reasons are entirely practical. If a case is at first found to be a genuine case of manic-depressive insanity, the prospects for recovery (at least temporary) may at once be pronounced good; if the case is one of genuine senile melancholia or depression, the prospects are practically hopeless. This monograph, therefore, is of genuine interest both scientifically and practically.

The first chapter sketches the history of the doctrine of melancholia. Like the history of most other traditional terms of the insanity text-books, this is a history of confused points of view. In the light of Kraepelin's generalisation of the more limited "circular insanity" into "manic-depressive insanity," one sees that under the old term melancholia were included "mental" diseases as different as the "physical" diseases typhoid fever and pneumonia. But the confusion was very excusable; for nothing is more difficult than to make an immediate diagnosis among the evanescent shades of the insanities. Kraepelin, however, by his reclassification of facts, really relegated masses of old clinical material to the lumber room. Obviously, he did not shake himself quite free of traditional doctrine, for he kept a place for melancholia, not as a phase of a compound disease, but as a disease itself. This is precisely what Dreyfus now supersedes. Melancholia, according to Kraepelin, "includes all morbid emotional depressions of advanced age that are not parts of the sequence of other forms of insanity. Besides the emotional disturbances the melancholic may also suffer from hallucinations" (p. 21). The detailed symptoms are numerous and the shades various, but they may here be passed over. The emotional disturbance in melancholia is easily seen to be different from the form of depression in circular insanity or the depression of catatonia. The delicacies of diagnosis here are among the most interesting conquests of the Kraepelin school. In Chapter II., Dr. Dreyfus gives an admirable summary of the Kraepelin view of manic-depressive insanity, but, following Kraepelin's own principle, carries his analysis to the point of showing that the alleged senile depression, when it is not due to arterio-sclerosis, is after all a phase of manic-depressive

insanity, not a separate entity. He contends that Kraepelin does not sufficiently allow for mixed cases. He would drop entirely the theory of senile depression (or senile melancholia) and reserve the term mania and melancholia for the excitement and the depression phases of circular insanity.

The clinical value of these studies is considerable ; but, psychologically, they are, as most exhibitions of insanity are, open to a certain charge of indefiniteness. It is difficult to be perfectly certain that the descriptions are always descriptions of the same conditions. Unfortunately, the psychological phenomena alone are available as a first approach to a pathology of circular insanity, a pathology that can hardly be said to exist. These psychological phenomena can be classified only after prolonged observation by skilled persons. Sometimes they lead to the discovery of definite conditions, such as arterio-sclerosis ; at other times they are fruitless and we must be content with assuming that there does exist a morbid nervous condition, if we only knew what it was. But, in the rough empirical work of clinical research, there is a perpetual shifting to and fro between psychological terms and physical terms, with the result that written descriptions, however well done, make one feel hopeless of a genuine science of insanity. Yet the Kraepelin classification seems to be a genuine guide in the tangle of evanescent symptoms and this study by Dreyfus is a genuine result of the Kraepelin school. What one, however, cannot help longing for is that a skilled scientific clinician should demonstrate in the normal mind the precise psychological processes that, in the morbid mind, end in the morbid conditions signified by the terms—flight of ideas, the feeling of insufficiency, mental retardation, mental exhalation, inhibition of will, emotional depression, emotional excitement, feelings of desolation, delusions, hallucinations, distractability, pressure of activity, fixed ideas, and the numberless permutations and combinations of those symptoms. In his "Lectures on Clinical Psychiatry," Kraepelin himself gives numberless hints of how the normal passes into the morbid ; but we still lack a systematic effort to combine a genuine psychology of the normal with a psychology of the abnormal. In the present monograph, Dreyfus writes essentially as an alienist, but his chapters have some good material that the psychologist, as such, may find valuable.

W. L. M.

Die Kultur der Gegenwart. Herausgegeben von PAUL HINNEBERG, I. v. *Allgemeine Geschichte der Philosophie.* Berlin and Leipzig : B. G. Teubner, 1909. Pp. 572.

It is impossible to do much more than give a short account of this excellent book, which aims at presenting in the compass of a single volume a general history of the development of philosophic thought all over the world. The names of the authors of the several sections are a guarantee for the general accuracy of the whole. A brief, and necessarily highly problematic, reconstruction of the "philosophy" of the barbarian by Prof. Wundt is followed by a section on Oriental Philosophy, in which India is represented by Dr. Oldenberg, Islam and Mediæval Jewish Philosophy by Dr. Goldziher, China by the late Wilhelm Grube, and Japan by Dr. Tetsujiro Inouye. In the history of European Philosophy Greek thought is treated by Dr. H. von Arnim, the learned editor of the *Fragmenta Veterum Stoicorum*, Mediæval European Philosophy by Baeumker, and Modern Philosophy by Windelband. It is to this part of the work that most students will naturally turn with most interest, and it

may therefore be permitted to say a word or two about its execution. Dr. von Arnim's sketch of Greek thought will naturally be received with great interest as the work of a scholar whose personal investigations entitle him to be heard with the greatest respect. At the same time the merits of the different parts of his sketch seem to me to be rather unequal. He is at his best, as would have been expected, in dealing with the later developments, and it may perhaps be regarded as his chief achievement to have treated Stoicism, with the fulness its historical importance justifies, as a development which forms a worthy third to the Platonic and Aristotelian systems. The two earlier sections seem to me less satisfactory. There are many points in which the treatment of the Pre-Socratics can hardly be said to be on the level of the most recent research (e.g., the retention of the view that the younger physicists were particularly concerned to reconcile Heraclitus with Parmenides), and there is at least one serious chronological error in arrangement, the representation of Empedocles as influenced by Anaxagoras. I fancy that the author has lost something by confining his attention almost exclusively to German special work on this part of the History of Philosophy. The treatment of Socrates, and consequently of Plato, is throughout conventional. Plato is regarded, against all reasonable probability, as the inventor of the εἶδη which Aristotle regularly says were an "importation," and we consequently find Dr. von Arnim repeating the exploded story of a fundamental difference, unknown to Aristotle, between an "earlier" and a "later" Platonism. It is a pity that the author should have rigidly excluded from consideration the influence of rhetoric and medicine on philosophy. Had he been alive to the significance of the influence of medicine in particular, he could hardly have misunderstood the "Aristotelian" doctrine of the "mean," as he has done, or failed to see that the theory is really a piece of pure Platonism, and reposes in the end on the medical theory of *ισονομία* in the organism. And it is a serious error to have represented the *μεγαλόφρωνος* as Aristotle's "ethical ideal". As the tenth book of the *Ethics* shows, it is the follower of the *βίος θεωρητικός* who, according to Aristotle, really lives the "best life". The whole list of "virtues of character" is wrongly conceived when it is criticised as if it were meant for a philosophic classification. It is a mere enumeration of the chief types of behaviour approved of by contemporary public opinion, and its object is simply to show that popular opinion agrees with philosophy in admiring conduct which exhibits "the right mean relative to ourselves".

The account of Scholasticism by Dr. Baeunker, perhaps the first living authority on the subject, is a model of clear and lucid exposition, and a study of it should save future writers from many of the gross mistakes which are constantly made by authors who take the particular theories of some single "schoolman" or group of "schoolmen" as characteristic of the whole thought of the Middle Ages.

Prof. Windelband is already well known to English readers by his *History of Philosophy*, and no one has a better right to be heard on the general development of modern thought. If I might suggest a criticism, I would say that even Prof. Windelband has found it hard to escape entirely from the natural tendency to give a little too much prominence to the classical philosophers of his own country. Avenarius really deserves more than a single line of notice, in which no light is thrown on his characteristic position, and it is rather one-sided, in an account of contemporary philosophical tendencies, to say nothing of philosophy in England except a few sentences on Pragmatism, to the total neglect of the roughly Hegelian movement of the last generation, and to be entirely silent about the remarkable revival of Thomism in France and Belgium.

Nor ought De Morgan to have been forgotten in a reference to the modern recreation of mathematical logic by a writer who mentions Venn, who has done no work on the philosophical significance of the theory, and Jevons, who misunderstood it entirely.

In one place Windelband has been led, by neglect of chronology, into a peculiarly gross error. He says that Hobbes founded his treatment of the passions on that of Descartes, and his theory of the rights of the sovereign on the practice of Louis XIV. Now both these Hobbesian doctrines are to be found fully expounded in the "Elements of Law" composed in 1640, when Descartes had published nothing about the passions, and Louis XIV. had not even begun to reign.

A. E. TAYLOR.

Die Grossen Erzieher. Aristoteles. Von OTTO WILLMANN. Berlin: Reuter & Reichard, 1909. Pp. viii, 216.

A study of the philosophy of Aristotle as a contribution to the theory of education and educational method. The author shows a wide acquaintance with the texts of the Aristotelian *corpus*, which is unfortunately not accompanied by very sound judgment or much knowledge of the results of modern scholarship. It is significant that he treats the forged letter to Alexander prefixed to the so-called "Rhetoric to Alexander" as genuine, and seems to know nothing of the established identity of the treatise itself with the *τέχνη* of Aristotle's older contemporary Anaximenes. Similarly he makes a quite unwarranted use of the *Magna Moralia* and even the *De Mundo* (a work from the school of Posidonius) as sources for information about genuine Aristotelianism. Erroneous readings in important passages which have been corrected since the publication of Bekker's text are quoted without any suspicion. The real meaning of Aristotle's famous formula of the *μέσον* is quite obscured by the blunder of rendering *ὁρθὸς λόγος* *Vernunft*, and by a failure to realise the dependence of the whole theory on the *Philebus* and *Laws*, and through them, upon the medical doctrines of Alcmaeon and his followers. In the account of Aristotle's life, the relations between Aristotle and Alexander are described in a story which is no better than a pleasing piece of fiction based on alleged letters of Alexander which are palpable forgeries. The whole tone of Aristotle's references to the life of "princes"—to say nothing of the ideal held up in his *Politics*—shows that he can never have had much sympathy with the later career of his famous pupil. (The episode of Callisthenes, and the alleged privy of Aristotle to his conspiracy, point to the same conclusion.) And how could Aristotle have taught the doctrine of his *Physics* to Alexander between the years 343 and 336? Aristotle's appointment as tutor to the Crown Prince of Macedonia is much better explained partly by the reputation which Plato's connexion with Dion and Dionysius II. had procured for the Academy as the chief authority on constitutional questions, partly by the connexion of his family with the Macedonian court than by any personal eminence he had acquired as early as 343, and the only strictly contemporary allusion to his relations with Alexander (that in the letter of Isocrates to Alexander) implies that the young prince took more interest in rhetoric than in the subtleties of the "eristic" philosophy—i.e., the science of the Academy.

A. E. TAYLOR.

Beiträge zur Geschichte der Philosophie des Mittelalters. Herausgegeben von CLEMENS BAEUMKER, GEORG VON HERTLING, und MATTHIAS BAUMGARTEN. Bd. viii., Heft 1-2. P. Augustin Daniels, O.S.B. Quellenbeiträge und Untersuchungen zur Geschichte der Gottesbeweise im dreizehnten Jahrhundert mit besonderer Berücksichtigung des Arguments im Proslogion des hl. Anselm. Münster. 1909. Pp. xii, 166.

A collection of passages bearing on the 'ontological' argument of St. Anselm in the works of the 13th century schoolmen, from Richard Fishacre to Scotus. (The silence of all earlier scholastics merely proves that the *Proslogion* was not in general circulation during the twelfth century.) St. Anselm's reasoning is rejected by Richard Middleton and St. Thomas, but accepted by all the other authorities, notably by Bonaventura and Scotus. Why then are Bonaventura and Scotus satisfied by an argument which St. Thomas finds flagrantly fallacious? A current explanation is that they tacitly assume the doctrine of God as the *primum cognitum*, but this can be shown not to be the case. The author's own tentative solution is as follows. Bonaventura regards St. Anselm's definition of God as free from internal contradiction. Hence he regards the proposition "God exists" (exactly, by the way, as Descartes does) as an analytic judgment. It would therefore be true (existence would be predicable of God in virtue of the definition of him) even if no God really existed. But an analytic judgment, like any other, must have a real ground. The real ground of the analytic judgment "God exists" can be neither in things, which are all perishable and mutable, nor in the equally mutable created understanding. It can only lie then in the real existence of the "being than whom no greater can be conceived". Scotus follows the same line of thought and supplements it by an attempt to show that the concept of God really is free from internal contradiction. I need hardly dwell on the interest of the work for all students of Descartes, Leibniz, or Kant.

A. E. TAYLOR.

Die Wirkung von Suggestivfragen. Von OTTO LIPPMANN. Leipzig: Barth, 1908. Pp. 169.

Dr. Lippmann, who in collaboration with Dr. W. Stern, conducts the journal and the institution "für angewandte Psychologie und psychologische Sammelforschung," describes in this booklet the results of an investigation into the dependence of the "suggestivity" (*Suggestivität*) of questions on the verbal form in which they are put. He reports also the light thrown incidentally upon the degree of suggestibility of the various classes of subjects who took part in the experiments, and summarises and discusses the results obtained by other workers along similar lines. Some 1,500 persons, adults and children of both sexes, of various ages and social levels, were subjected to the questioning; the experiments seem to have been judiciously planned and carefully conducted, and the results have been handled with psychological insight and statistical skill. The report therefore constitutes a monograph of great value, and marks a stage in this novel and very interesting line of investigation.

The procedure consisted in presenting to each subject a simple coloured print depicting a peasant family in its home; and in putting to each subject, after his inspection of the picture, questions regarding nine prominent

features of the scene. In the principal part of the investigation twenty-seven questions were used, always in the same verbal forms, three bearing upon each of the nine features of the picture. Of these three questions one was designed to exert no suggestive influence, one to exert such influence in a low degree only, one to exert it in high degree; *e.g.*, in reference to the figure of a man who has no coat, the following three questions were used: Is the man wearing a coat? Is not the man wearing a coat? Is the man's coat torn or not? Of course, only one of these three questions was put to each subject. Any summary statement of the results in a few lines would probably be misleading, and will not be attempted here; but it may be noted that Lippmann's studies lead him to reject the view, held by Binet among others, that suggestibility is a tendency whose degree varies independently of other mental attributes.

Dr. Lippmann seems to have refined upon the work of previous investigators by distinguishing carefully between the true suggestive influence of the question and its influence upon the subject's answer independently of true suggestion.

Stern has defined suggestive questions as "*solche Fragen die nicht nur eine Vorstellung oder ein Vorstellungsgebiet, sondern schon eine bestimmte Stellungnahme dazu nahelegen*". Lippmann points out that the form of a question often induces the subject to return a particular answer without really affecting his notion (*Wissen*) of the object of the question, *e.g.*, through complacency, through simple mental inertia, or the habit of saying 'yes' when no opinion or belief exists in the mind, etc., and he uses the term '*Suggestiv-frage*' in the wider sense of all questions that tend to modify the subject's answer in either way. One criticism of Lippmann's conception of the truly suggestive effect must be made. He holds that real suggestion involves either some distortion of, or some addition to, the image (the perceptual image, if it takes effect during perception of the object, or the memory-image, if it takes effect after the act of perception is completed). This doctrine seems to imply the old fallacy that identifies the having an image present to consciousness with the cognitive act or process. To show the inadequacy of this view, one has only to ask—how then is it with the subject who, having seen an object, afterwards describes it without the aid of imagery? He has knowledge or belief about the object, though he has no memory-image of it. Is he, then, necessarily insusceptible to suggestion. Though experiment has not been directed to this interesting question (whether suggestibility is greater or less when memory is not aided by representative imagery? it seems probable that it will be found to be greater rather than less, and certain that it will not be reduced to zero by the lack of imagery. Considerations of this kind show that true suggestion cannot be defined either more or less broadly than in the way proposed elsewhere by the present writer, namely as "the communication of a proposition in such a way as to induce or modify belief about its object without logically adequate grounds for such belief". If this definition is accepted the various modes in which a suggestive question about any object may influence the answer of the subject without modifying his belief in regard to it, and which Lippmann, unlike most of his predecessors, has properly distinguished from the suggestion-processes, might then be classed under the head of '*pseudo-suggestion*'.

One new feature of Lippmann's work that adds greatly to its value is the application of the method of correlation devised by Dr. Spearman; by means of this he is enabled to supply evidence of the degree of trustworthiness of some of his conclusions.

W. McD.

Das Philosophische Werk Bernard Bolzanos. By HUGO BERGMANN. Halle, 1909. Pp. xiv, 230.

Bernard Bolzano is not merely one of the most personally attractive figures among the philosophical thinkers of the early nineteenth century, but the one of all others whose philosophical significance is most universally overlooked by the generality of writers on the History of Modern Philosophy. The recent revival of interest in the philosophy of Mathematics has led to the republication of the famous *Paradoxien des Unendlichen* in which the Bohemian priest shows himself at once a forerunner of Dedekind and Cantor, and a worthy continuator of Leibniz, but the *Wissenschaftslehre* and the charming *Autobiography* are probably still all but unknown to readers, at least in this country, while great quantities of Bolzano's most important work are still in the condition of unprinted manuscript. Dr. Bergmann's work, therefore, calls for hearty welcome, as it not only presents a lucid account of Bolzano's attitude to the chief problems of philosophy, but a highly instructive criticism of his main logical and mathematical positions. The book should be specially interesting to all who are interested in the current realistic reaction against the Kantian tradition in philosophy. Specially important in this respect are the second chapter, which deals with Bolzano's logic, and the Appendix on the place of Bolzano among the founders of modern Mathematics. The only important weakness I can find in Dr. Bergmann's treatment is his, as it seems to me, exaggerated devotion to the Law of Contradiction, which he regards as the only real "axiom" of pure mathematics. It is part of this view that he insists upon the reduction of all true non-empirical propositions to a negative form. $ab = 0$ is with him not simply a form but the only form in which a true non-empirical proposition can be expressed. The assumption seems to be that the "class" form (*i.e.* the subject-attribute type) is logically the fundamental type of all propositions. I cannot myself see why this type should be regarded as more ultimate than that of a formal implication $(\phi(x) \supset \psi(x))$, and it has the disadvantage that it apparently requires us to identify a singular term with the class of which it is the only member. (*E.g.* we have to replace such a statement as that "the base of the system of natural logarithms is not an algebraic number" by "the class of bases of the system of natural logarithms which are algebraic numbers contains no members".) Nor do I see why the Law of Contradiction should be regarded as more fundamental for mathematics than any other formal principle of logic (*e.g.* the principle of deduction,

$$a \supset b, b \supset c. \therefore a \supset c.).$$

A. E. TAYLOR.

Klinische Beiträge zur Lehre von der Hysterie, nach Beobachtungen aus dem Nordwesten Russlands. Von Dr. GEORGE VOSS, Privat-dozent für Psychiatrie und Neurologie an der Universität Greifswald. Verlag von Gustav Fischer in Jena, 1909. Pp. 300.

This is a careful, scientifically grounded study of hysteria in its clinical aspects. The author's "raw material" was 123 closely studied cases,—101 women and 22 men. After a critical summary of theories, Dr. Voss inclines strongly to the view that hysteria is connected with an arrested- or under-development of the central nervous system, in particular the cortex. It is commoner in women than in men, because the stronger emotional development in women makes inhibition and the growth of

will more difficult. The signs and causes of hysteria are carefully discussed,—race, environment, heredity, injuries to the germ, sexual development, diseases of brain and other organs, infections, intoxications, including alcoholism, over-pressure, psychical traumata, physical traumata, and unknown causes. There are chapters on alterations of sensibility, reflexes, sensations of the special senses, vaso-motor and trophic conditions, movement, paralyses, diagnosis, prognosis and treatment. The bibliography names 870 books or articles. Altogether this is one of the most complete critical summaries yet produced of recent clinical work on hysteria. The cases are fully analysed, and the fact that they are Russian does not make the records less interesting.

W. L. M.

Einführung in die Histologie und Histopathologie des Nervensystems.
Acht Vorlesungen. Von Dr. PAUL SCHRÖDER, Privat-dozent, Ober-
arzt der Kgl., psychiatrischen und Nervenclinic zu Breslau. Jena:
Gustav Fischer, 1908.

This introduction to the histology and histo-pathology of the nervous system consists of eight lectures prepared particularly for the demonstration of microscopic preparations of the nervous system. The lectures give a good descriptive account of the present knowledge of nervous structure and the methods of demonstrating the structure elements. The ganglion cell, the neuro-fibrils, the neuron, nerve bundles, the neuroglia, the meso-dermal elements of the nervous system, the lymph channels, the structure of white and grey matter, are all expounded in the first part,—the work of Nissl, Bethe, Apathy, Golgi, Weigert, and others being carefully detailed. The second part applies the same methods to pathological structures. The little volume is a convenient critical summary of present knowledge, and the references for further study are abundant. There is a careful discussion of the histological basis of the neuron doctrine. It appears that, although the mass of grey matter generally has a nutritive influence on the nerve fibres, the histological connexion of each nerve fibre with a nerve cell is not demonstrated.

W. L. M.

Principii di Scienza Etica. Da FRANCESCO DE SARLO E GIOVANNI CALÒ.
Milan, Palermo and Naples: Remo Sandron, 1907. Pp. vii, 316.

The authors of this work, who are fellow Professors in the Studii Superiori of Florence, have explained its method and scope in a short introductory note. It consists of two parts, one setting forth what they call "The phenomenology of the ethical consciousness," the scientific statement of which, according to them, involves the enunciation of a series of eternal and self-evident principles; while in the second part, for which Prof. Calò is alone responsible, and the materials of which are chiefly derived from Westermarck, the historical evolution of these principles is related.

The result of this plan is a curious amalgam of apriorism and relativity. According to our authors the constitutive ethical ideas, value, obligation, and free-will are given to consciousness without any reference to pleasure, utility, or determination by motives (pp. 5-6). The social sanction does not explain morality (p. 8). The value and obligatoriness of certain principles of conduct are immediately and self-evidently certain—not deriving

their efficacy from æsthetic or logical rules (p. 34). The category of duty is inderivative, inexplicable, and innate, not merely in its form (as Kant held) but in its contents (p. 51). Neither the sense of value nor any original fact of conscience is social in its origin (p. 80). Duty in the most general sense does not imply the recognition of a relation between myself and another personality (p. 112). Free-will (in the sense of unmotivated volition) is above discussion (p. 130). A necessitated will is a contradiction in terms (*ib.*).

Heinrich Heine in the course of his travels was much amused by coming across a Protestant Catechism with the multiplication table printed on its back cover. No Catholic priest, he thought, would have brought the laws of arithmetic into such dangerous contiguity with the mysteries of theology. Our authors have committed a similar oversight in associating their eternal and immutable morality with a history of ethical evolution. It was indeed by a reference to the facts of savage morality that Locke proved the non-existence of innate practical principles. But the method is much older than Locke, going back not only to the Greek Sceptics but further still to the Platonic Protagoras who uses it to establish the supremacy of that very social factor which the Florentine professors deny—nay perhaps even to Homer, whose Polyphemus looks almost like a satire on the dream of a golden age. Prof. Calò does indeed acknowledge the difficulty, but his efforts to get out of it are of the lamest description. The stresses of life prevent the principles of morality from being fully recognised among savages (p. 146). We cannot infer from the vicious conduct of individuals that they have no perception of the moral law, and so neither have we a right to infer as much from the vicious conduct of a whole tribe (pp. 148-49). The question is of course one not of conduct but of belief; or, if the expression be preferred, of values and ideals. And here we find nearly as great a conflict between individuals on the same plane of civilisation as between communities on different planes of civilisation. Epaminondas disapproved of assassinating the Spartan officers who wrongfully held possession of the Cadmea. Sir Thomas More proposed the removal of the enemy's generals by hired assassins as a humane substitute for fighting in the open field. Another well-known disproof of intuitionism is supplied by the different opinions held at different times about religious persecution. On this subject nothing could well be feebler than the position of our authors. When it has been discovered that persecution does more harm than good it becomes immoral (p. 125). This seems equivalent to applying a merely utilitarian standard where, if anywhere, the self-evident difference between right and wrong might have been expected to manifest itself. Another crucial case is that of capital punishment for murder, which the two professors, like Italians generally, disapprove of, while other moralists think it the perfection of justice.

Quod gratis asseritur gratis negatur; and the blunt dogmatism with which free-will is affirmed in this volume might be dismissed with an equally blunt contradiction, were it not desirable to point out that, with the usual incoherence of error, our authors practically give their case away. For they do not deny that justice (*il diritto*) is only guarded against infraction by force or the fear of force (p. 12). Now to threaten such a freedom as is here assumed with the use of force would be merely a stupid impertinence; and to punish the sane criminal for exercising his freedom as he thought fit would be a cruel irrelevance in so far as it involved the useless infliction of pain. And to talk of "ends imposed on man's free-will" (p. 35)—meaning moral ends—though less revolting is, logically, an equal absurdity.

A. W. BENN.

Logica Come Scienza del Concetto Puro. Da BENEDETTO CROCE. Second edition entirely rewritten. Bari, 1909. Pp. xxiii, 429.

According to Signor Benedetto Croce all knowledge is of two kinds, intuition and conception. By the one we become aware of individuality and multiplicity; by the other of universality in individuality and of unity in multiplicity. Pure concepts, with which alone logic deals, are distinguished from spurious or fictitious concepts by their universality and concreteness. For instance, mechanical causation and teleology, evolution and abiding substance, beauty and individual pleasure are pure concepts, present in all sensible representations and covering the whole range of experience. The content of spurious concepts, on the other hand, is supplied by a group of representations or even by a single representation, as a house, a cat or a rose, necessarily limited in extension; or again, they have no content in experience, as, for instance, free motion or a triangle, to which there is nothing corresponding in reality. These are useful for practical purposes and as helps to memory, but have no speculative value (p. 25). Thus the distinction between pure and spurious concepts answers to the distinction between Reason and Understanding, the pure concept being like Reason a synthesis of opposites, and so far Croce follows Hegel; indeed his philosophy is known in Italy as neo- or semi-Hegelianism. Pure concepts are also identified with Hegel's Categories. But the master's deduction of the Categories by a dialectical process is rejected as irrelevant to Logic and also as a not very profitable exercise of ingenuity; while the attempt to construct all science and history on a scheme of thesis, antithesis, and synthesis, is repudiated as chimerical. In fact while Hegel only admitted the claims of the abstract understanding to the extent of leaving mathematics under its care, Croce would assign all the natural sciences to the same method—the method of spurious concepts—as something apparently only worthy to be cultivated from motives of practical utility.

Returning to our author's more immediate theme, we learn that the pure concept is judgment and definition (p. 79) as well as reasoning (p. 82), besides involving the existence of its object—at any rate in thought. In the summary with which the volume concludes there is a reference to a theory of degrees of reality, which would be interesting in this connexion, but I have vainly sought for it in the body of the work. The wonderful receptivity of the concept is further shown by its being the equivalent (one does not quite see how) of Kant's synthetic judgment *a priori*; while it functions not only as a judgment of fact but also as a judgment of value. And as the final achievement of thoughtful intuition it comes out as the individual judgment, landing us in the unexpected conclusion that philosophy is identical with history, this latter being understood not as political history only, or as the history of the human race in all its branches, but as the whole course of evolution.

For such a reversal of the traditional nomenclature no reason is or can be given. No identification of opposites, no internal self-distinguishing dialectic of the notion can abolish the absurdity of a definition which would rest the claim of Plato to be a philosopher on the narrative portions of his dialogues, and on those only in so far as they referred to real occurrences; which would make the *Constitution of Athens* Aristotle's only contribution to philosophy, and Kant's only contribution the *Naturgeschichte des Himmels*, while altogether denying the name to Spinoza's *Ethics*. Even Croce's own master Hegel would fare badly, for where he treats of history it is not for the sake of the events as such, but in order to elucidate the eternal laws which they embody.

Such external considerations, however, are unnecessary when the

paradoxist can be refuted out of his own mouth. For by accepting the ideality, or, as he chooses to call it, the unreality of space and time, as one of the greatest philosophical discoveries ever made in history, Croce puts out both the eyes of history as a revelation of reality (p. 137). And, finally, by calling Logic the philosophy of philosophy itself he furnishes the most complete and ingenuous refutation of his own theory. For this philosophy at least has nothing historical about it except as including an external record of more or less imperfect theories on the subject, which can be relegated to an appendix without any loss to its systematic exposition.

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Dzieje Myśli, Tom. ii, Zeszyt 2, Warszawa, 1909 (*The History of Thought*. Number contains "The History of Psychology," by Stanislaw Loria, and "The History of Linguistics," by J. B. de Courtenay).

Jos. Kral, Tomáše Hobbesa, *Zaklady Filosofie Státu, A Společnosti* (O. Oběanu), V. Praze, 1909, pp. xxvii, 259 (Thomas Hobbes, *Philosophical Rudiments Concerning Government and Society*, translated into Bohemian with Introduction).

VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xviii., No. 5. **A. O. Lovejoy.** 'The Obsolescence of the Eternal.' [Two problems are to be considered: whether real evolution and real eternity can be congruous in the realm of concrete existences, and whether the idealistic eternal can conceivably be related in any logically consistent or practically pertinent way with the empirically undeniable existence of the temporal and the evolving. The constant of physical science fails us; for a world in which qualitative evolution is supposed to take place is one in which, as a total, quantitative constancy cannot be said to subsist. The eternal of Neo-Kantian idealism also fails us; Thomas Aquinas, Hegel, Green, Howison, McTaggart are one and all unable to relate the eternal to the temporal. In fact, the eternal is the characteristic but not necessarily incorrigible distemper of adolescent metaphysics. A thoroughly temporalistic way of thinking has its technical categories for the most part still to forge, but of its main principle we have by this time a right to be confident.] **C. M. Bakewell.** 'Idealism and Realism.' [Many of the charges brought against current idealism are mere absurdities, although most of them may be extracted by interpretation from the *esse-percipi* theory. It is forgotten that Berkeley was chiefly concerned to demolish the substantial matter of earlier realism, and it is also forgotten that the first searching criticism of the *esse-percipi* dictum was made by the first great idealist. In fact, a realism which makes its reals lie outside of experience has subjectivism for its twin error, and idealism has from the outset been a conscious repudiation of subjectivism. Since the modern idealist keeps the distinction between subjective and objective, and heartily believes in the reality of the natural order, and since the modern realist teaches that the real is the experienceable and the intelligible, it would seem that reconciliation should be possible: it is, however, hindered by the desire for a residual, non-experienced reality, or by the identification of idealism with immediatism, or by acceptance as metaphysical of the distinction between physical and mental phenomena. Idealism simply realises the desire in and through individual experience to reach universal experience: starting ontologically from the object side, or epistemologically from the subject side of the subject-object relation, it comes to view the real as 'idea,' which is both form and content, thread of meaning and detail, manifold and unity of experience.] **O. Ewald.** 'German Philosophy in 1908.' [The Heidelberg Congress showed the power of Neo-Kantianism; Neo-Fichteanism is supported by Münsterberg and, on the logical side, by Cohn. The influence of Schelling is attested by von Hartmann's school; that of Hegel by Eucken and Simmel. Another line of derivation from Kant leads, by way of Fries, to Nelson and to the phenomenologists (Gomperz); the latter are connected with Gnosticism and Romanticism by Schmitt. It is in Neo-Romanticism (Joël) that the current struggle for philosophical insight finds most tangible expression.] Reviews of Books. Notices of New Books. Summaries of Articles.

Notes.—Vol. xviii., No. 6. **V. Delbos**, 'French Works on the History of Philosophy during 1907-08.' [Characterises, first, works upon ancient (Brochard, Hamelin, Rodier, Robin, Bréhier) and mediæval philosophy (Martin, Rousselot). A series of books on the principles of science (Duhem, Milhaud, Hannequin) takes us to Pascal (Strowski), Newton (Bloch), Cournot (Mentré), evolutionism (Berthelot, Thouverez), and the minor Cartesians (Prost). Spinoza finds recognition at the hands of Appuhn, Brochard, Colonna d'Istria; Bayle is treated by Delvolvé, Helvétius by Keim, Knutzen, Leibniz and Kant by van Biéma, and Kant by Delbos.] **E. B. Talbot**, 'Individuality and Freedom.' [It is often said that, if we deny the existence of real alternatives in the choices of men, we rob personality of all significance. Now individuality implies unity (which in its higher forms involves great inner complexity), uniqueness (which rests upon a broad basis of similarity), and some degree of self-sufficiency. It is clear, first, that the denial of real alternatives is more fully in harmony than its assertion could be with the conception of the self as unitary. Logically, again, the possibility of two actions at a given time must mean that choice does not proceed from the self, *i.e.*, that the self is not self-sufficient. And, lastly, the most serious objections, that without alternatives every action would be predictable and life itself deprived of its vividness and actuality, fall to the ground if we assume that every element of reality is unique and that time and change are of the essence of reality.] **E. G. Spaulding**, 'The Postulates of a Self-critical Epistemology.' [A self-critical epistemology must be consistent in its use of terms; must be free of contradiction either of part by part, or of part by whole, or conversely; must apply to itself, presuppose and imply itself; and must incorporate in itself its own presuppositions, and yet derive them from itself. The logic upon which it is based must treat of the infinite intensionally; must accept the doctrine of the externality of relations to their terms; and must work by way of discontinuity. On these foundations, the writer works out a series of fifteen postulates, which are necessary and adequate to the establishment of a self-critical theory of knowledge.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes. **A. C. Armstrong**, 'The Sixth International Congress of Psychology.'

PSYCHOLOGICAL REVIEW. Vol. xvi., No. 5. **T. Nakashima**, 'Time-relations of the Affective Processes.' [Experiments made with series of paired colours, groups of geometrical figures, etc., passing before the observer at known and variable rates, show that an affective process may be aroused in .75 to 1.00 sec., and that affective intensity decreases with decrease of time of exposure. Reaction experiments with single colours and with tones confirm the author's previous conclusion that the reaction-method is applicable to affective processes, and that affective times and their variability are either absolutely or relatively of the same order as sensory times and their variability; the time-relation of affective to sensory process varies, however, with the different sensory fields. In general, affection requires a longer time for arousal than sensation; the author ascribes this fact to the lack of affective clearness.] **E. L. Thorndike**, 'A Note on the Accuracy of Discrimination of Weights and Lengths.' [Record of experiments with weights (72 observers; 8 tests with a standard of 100 gr., 8 with 200 gr.) and drawing of lines (37 observers; 30 tests with a standard of 50 mm., 30 with 100 mm.) by the error method. The deviation from the standard is regarded as the inverse measure of accuracy of discrimination. In general tendency, the 200 gr. weight shows an error 1.585 times that of the 100 gr., and the 100 mm. line gives deviations from the standard 1.8 times those of the 50 mm., or

a variable error of 1.4 times. These results are made the basis of a polemic against a psychophysical law. Accuracy in sense-discrimination has developed as a function of instinctive response to concrete objects, and laboratory work is artificial.] **G. M. Whipple.** 'A "Range of Information" Test.' [Extension and supplement of Kirkpatrick's vocabulary test; 100 test-words are so chosen that each represents some specific field of knowledge or activity (American history, chemistry, French, golf, etc.). Typical results, quantitative and qualitative, are given.] **J. V. Breitweiser.** 'Resistance of Keys as a Factor in Reaction Times.' [Experiments with spring key and ergograph. Within the limits employed (50 to 1500 gr.), reaction time varies with key-resistance; in experimentation the resistance should therefore be known and stated. Rate of tapping also varies directly with resistance. Excess force of reaction movement is, on the other hand, largely independent of resistance; the graphic records show a tendency to rhythm, especially in tapping; the excess decreases, more or less regularly, with practice. The results may be due, in slight degree, to compression of finger-tip; chiefly, however, they are to be explained by muscular elasticity; time of formation of nervous impulse possibly plays a part.] **Announcement.** [Seventh international congress.]—Vol. xvi., No. 6. **H. T. Woolley.** 'Some Experiments on the Colour Perceptions of an Infant and their Interpretation.' [Experiments by the method of paired comparisons prove that colour vision may exist in an infant at six months. R, B, Y are certainly seen as colours; G is doubtful. The child preferred R, and was indifferent to G. Soon after this age, interest in colour lapses; the child is developing motor co-ordinations. Then, at about eighteen months, the interest revives; motor facility has been acquired, and sensory discrimination is free again. The fact that children learn other descriptive adjectives before those for colour has a pragmatic sanction; words like 'hot,' 'dark' are of high practical importance.] **E. B. Holt.** 'On Ocular Nystagmus and the Localisation of Sensory Data during Dizziness.' [A subject rotated with eyes closed experiences sensations from extra-peripheral stimuli (air currents, etc.), and from proprioceptive organs (joints, muscles, etc.), as well as true sensations of motion, which depend in some way upon the non-auditory structures of the internal ear. The precise function of the labyrinth is, however, still under debate. On the other hand, it is agreed that visual dizziness is closely connected with nystagmic eye-movements. The author's experiments show that voluntary inhibition of the nystagmus abolishes the sense of rotation, not merely after the turning has stopped, but during the actual rotation itself. This result flatly contradicts those of Mach; and as Mach was a very careful observer, we must have recourse to individual differences. Now individual differences in the movement of after-images seem to depend, not upon eye-movement sensations, but upon mode of innervation (voluntary, semi-voluntary, involuntary). This fact may be carried over by analogy to visual dizziness: the 'sensation of rotation' is not a sensation at all, in the ordinary sense; the process most nearly parallel to the experience of rotation is a kind of innervation process. Afferent impulses come from various, and so far unidentified sources, converge in the central nervous system, and pass out as a unified and definite innervation to eye-movement.] **F. G. Henke and M. W. Eddy.** 'Mental Diagnosis by the Association Reaction Method.' [Report of three laboratory tests. If the situation is controlled (simple choice between two possibilities, motive known to experimenter), accurate judgment is practically certain for the conductor of the test, and probable for an outside observer. Knowledge and attempt at concealment on the part of the subject do not make correct diagnosis impossible. The less com-

plete the control of the situation, the more difficult does judgment become; in cases of extreme complication, diagnosis might be sheerly impossible.] **B. B. Breese.** 'Binocular Rivalry.' [The average phase-length for 10 mm. squares crossed by vertical and horizontal lines is 1.84 sec. (previous work with diagonal lines gave 1.89 sec.). The smaller the stimulus, the longer the phase; this result is analogous to that obtained with variation of intensity of light. The phase lengthens also with indistinctness of image. In direct it is rather less than half what it is in indirect vision.] Minor Studies from the Psychological Laboratory of Wellesley College.—I. **E. A. McC. Gamble.** 'Intensity as a Criterion in Estimating the Distance of Sounds.' [The results offer strong evidence for, and little or none against the theory that intensity is the main criterion in the estimation of distance of sound. They thus tell against von Kries' hypothesis of a distance-sign.] II. **D. Starch and A. L. Crawford.** 'The Perception of the Distance of Sound.' [When the source of sound is 1 m. distant, the j. n. d. of distance, in any direction, is approximately 15 cm. Intensity is the principal criterion.] Discussion. **J. M. Baldwin.** 'Darwinism and Logic: a Reply to Professor Creighton.' [There is no contradiction between the point of view of evolution, dualistic as it is, and that of a truly psychical account of the genesis of knowledge; the latter issues in and justifies the former. In the last resort both mechanism and teleology are, when legitimately employed, naturalistic or empirical categories; both are valid, but both are restricted in their proper use: and both are superseded in a hypolritical mode of experience.]

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xx., No. 4. **L. R. Geissler.** 'The Measurement of Attention.' [Opens with a review of the experimental work on attention, which the author classifies, in two ways, according to the methods employed. (1) The method of distraction, or single-task method, was first used by Wundt and Obersteiner in 1874; the method of division of attention, or double-task method, by Loeb in 1886. (2) For purposes of systematic review, it is best to classify the methods as those of expression and of impression. The former have utilised peripheral vision, muscular strength, liminal and differential sensitivity, reaction time, and accuracy of work; the latter, only the presentation of graded distractors. The writer made three series of experiments: on motor inhibition (negative result), on degrees of clearness with continuous addition, and on degrees of clearness with marking circles (adaptation of McDougall's test). He finds a very close parallelism between introspectively distinguishable variations of attention and differences in the accuracy of work performed at these levels, under the conditions that degree of attention is estimated in terms of clearness, and that the work itself is influenced by nothing else than change in attention; under the same conditions, the estimate of quality of work is by no means as reliable as that of degree of attention. He finds, further, that there are two types of the attentive consciousness: the dual-division, in which a reciprocal relation holds between the two levels, and the multi-level formation.] **W. H. Pyle.** 'An Experimental Study of Expectation.' [Review of literature; report of experiments on expectation of visual, auditory, touch and temperature stimuli, on reaction, on expectation of words, numbers and geometrical figures, and on the watching of situations calculated to arouse expectation. Expectation has a special conscious pattern; it is initiated by a perception (never, in the writer's experience, by an idea), which is followed by kinæsthetic and organic sensations, and in some cases by verbal ideas. These sensations are the conscious aspect of a problem or *Aufgabe*, set up by the perception as the

result of habit. The image of expectation is conspicuous by its absence. Consciousness is not attentional; it is rather all background and no focus. Expectation thus appears both as an habituated and as a transitional consciousness.] **E. B. Titchener** and **L. R. Geissler**. 'A Bibliography of the Scientific Writings of Wilhelm Wundt.' [Continued from xix., 541.] **E. B. Huey**. 'The International Congress of Psychology.' Psychological Literature. Book Notes.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. vi., 17. **F. J. E. Woodbridge**. 'Consciousness, the Sense Organs, and the Nervous System.' [Proceeds on the assumption that "an organism so situated that it would be in differentiated interaction with the specific differences in the world about it, but which should none the less react in a unified and co-ordinated manner no matter how it might be stimulated, might well be defined as a consciousness".] **E. R. Clapp**. 'Dependence upon Imagination of the Subject-Object Distinction.' [In experience subject and object are distinguished and contrasted only at need. When the course of our activity runs smoothly we do not distinguish between fact and meaning. It is only when doubts arise that memory-images are called in and they are then regarded as subjective, as being our personal interpretation of fact.] **W. P. Montague**. 'May a Realist be a Pragmatist?'—I. [Defines realism negatively as meaning that "the same objects that are known by some one may continue to exist when they are not known by any one" and distinguishes four sorts of pragmatism, biological, psychological, ontological and logical.]—vi., 18. **W. H. Winch**. 'Conation and Mental Activity.'—I. [A vigorous and interesting comment on Prof. Stout's account of conation by one who calls himself "plus royaliste que le roi". Mental activity is not merely intellectual activity, "experience of our own conations is entirely responsible for the conceptions of activity as applied to the material elements of the universe" and "activity or effectiveness is the very essence of the conative state".] **W. P. Montague**. 'May a Realist be a Pragmatist?'—II. The Implications of Instrumentalism.' [Defining realism positively as the presupposing of an objective world which exists 'independently' of our cognitive experience of it, and instrumentalism as "the courageous application of Darwinism to the life of reason," concludes that an instrumentalist must be a realist.] **H. Wodehouse**. 'Prof. James on Conception.' ["Prof. James returns to feeling in petulance, Mr. Bradley in despondency."]—vi., 19. **W. H. Winch**. 'Conation and Mental Activity.'—II. [Full of good things; argues that the study of the Self, of pleasure-pain, and sensations in each case shows that there exists a conation-factor distinguishable from any cognition or feeling.] **H. C. Brown**. 'The Problem of the Infinite in Space and Time.' [Conceives them "as aspects of reality picked out from practical motives by the perceiver," and holds that this explains "the intellectual repugnance" to admitting their finitude. Yet they cannot be actual infinities.] **J. A. Leighton**. 'Philosophy and the History of Philosophy.' ["The conflict and confusion in philosophical thought to-day are simply the expressions of the confusion and distraction in our whole culture life."]—vi., 20. **H. S. Shelton**. 'On the Methods of Applied Mathematics.' [A thoroughly pragmatic treatment of mathematics. "Whatever may be its philosophical meaning mathematical reasoning is an ideal construction . . . the validity of which is strictly limited to the conceptual sphere." "Common knowledge and experimental science are a system of truths . . . belonging to a perceptual series of an entirely different order." "The essence of a methodological observation lies in the possibility of concrete application." "All applications of mathematical reasoning to physical problems or to actual existence of any kind are therefore a more or less

conscious fitting of the conceptual to the perceptual system." And this "is subject to certain theoretical sources of error" which can only be guarded against by empirical verification.] **W. P. Montague.** 'May a Realist be a Pragmatist?'—III. [Discusses psychological pragmatism, i.e., the assertion that "the being true of a belief is identical with the process . . . of finding it true". The answer is *No* because the absolutistic truth, which pragmatism rightly attacks as useless, is not the only form of objective truth. "The verification of a belief is our only ground for knowing it to have been true," but not its *ratio essendi*.] **H. M. Kallen.** 'Dr. Montague and the Pragmatic Notion of Value.' [His paper in vi., 9, has failed to observe that while pragmatists do not deny the differences in values they emphasise their *common* character as instruments of organic adjustment. Hence "*qua* vital equilibrium truth and beauty and goodness are identical".]

INTERNATIONAL JOURNAL OF ETHICS. Vol. xix., No. 4. July, 1909. **J. S. Mackenzie.** 'Moral Education: The Task of the Teacher.' [Considers especially two difficulties that have been raised with reference to the attempt to teach morality directly and systematically—those based, respectively, on the principle of the suggestion of contrarian ideas, and on the view that it is impossible in practice to make any separation between moral education and religious education.] **Millicent Mackenzie.** 'Moral Education: The Training of the Teacher.' [Deals with the problems: (1) how to create a demand for teachers properly trained to undertake moral and civic education; (2) how to prepare students in training colleges for this work; (3) how to help those already in the teaching profession to prepare themselves to meet the new requirements.] **H. L. Stewart.** 'Some Criticisms on the Nietzsche Revival.' [A polemic against some Nietzschean opinions which seem to be endorsed in the articles of recent contributors. Attacks Nietzsche's conception of the superman, his attitude to the moral postulate of immortality, and the alleged affinity between his and the evolutionary ethics. Thinks the value of Nietzsche as a moral philosopher quite insignificant.] **Anna G. Spencer.** 'Problems of Marriage and Divorce.' [A thorough and suggestive statement of the problem as it presents itself in the actual conditions of the modern world. "The great demand to-day is for a re-incarnation of the old sanctities of life in new forms . . . suited to modern conditions."] **Mary G. Husband.** 'Women as Citizens.' [Urges the right of women to full citizenship on the ground that this is essential for the rearing of good citizens and the furthering of civilisation. Woman is the centre and central power of civilisation, because she is the centre of the family, and the family is the centre of the life of the state.] **Frank S. Hoffman.** 'The Right to Property.' [Contends that the supreme ownership of all the natural sources of property is with the body politic; that the state has the ultimate control of and responsibility for the methods of acquiring property; and is the supreme authority for determining as to the use, the transfer, and the descent of property. Supports on these grounds the project of mitigating social evils at the expense of inherited wealth.] **B. Gilman.** 'The Ethical Element in Wit and Humour.' [It consists in "the conquest of an error, a falsity—usually bolstered into pretentious strength by plausible surroundings—by the truth, as established in the mind of the listener or spectator through past experience".] Book Reviews.

REVUE NÉO-SCOLASTIQUE. Novembre, 1909. **C. Alibert.** 'Saints' Lives Read Psychologically.' [The Saint is a man with such an impartiality as regards self, and such a discernment of the exaltation of God

above creatures, that he comes to think and behave unlike other men.] **J. Lottin.** 'The Theory of Averages in Sciences of Observation.' ["An average expresses a probability, not a necessity: applied to views of the future, it means only that, supposing the causes to remain the same, it is probable that in the greater number of cases observed most of the effects will come out in the particular form and measure indicated."] **L. Van-halst.** 'The Feeling of Effort.' [Not every free act is an effort, nor is every effort a free act: there are efforts voluntary, not free.] **J. Ceulemans.** 'The Progress of Philosophy in America.' **M. Ladeuze.** 'The Organic Idea of a University.' [Discourse of the Rector of the University of Louvain at the opening of last October term. "To preserve its proper character, a University should procure for its students, not merely an intellectual means of gaining a livelihood, but an intellectual life." "The supreme principle of unity, which particular sciences demand of philosophy, exists only in God."]

REVUE DE PHILOSOPHIE. 1^{er} Septembre, 1909. **P. Gény.** 'External Perception.' [Knowledge is not judgment, but apprehension. Judgment is an estimate, right or wrong, of the value of apprehensions. Perception is immediate, the scholastic theory of Assimilation notwithstanding.] **A. Véronnet.** 'The Necessary Atom.' [A vindication of the atomic theory against Ostwald's attempt to sweep it away in the name of Thermodynamics.] **M. Baelen.** 'The Monist Mechanism of Taine.' [How, having abolished metaphysical entities in favour of facts and laws, Taine ends by referring all things to one metaphysical formula, the unity of the universe.] **G. Michelet.** 'Critical Review of Moral Theories.' [Analysis of M. Fouillet's *Morale des Idées-Forces*, M. Leclère's *La Morale Rationnelle*, M. Gaultier's *Idéal Moderne*, and M. Chollet's *La Morale est-elle une Science*, four able and interesting works making against the Positivist view of Morality.]—1^{er} Octobre, 1909. **S. Belmond.** 'The Perfection of God according to Duns Scotus.' [Scotus holds that, although the Creator infinitely transcends his creatures, still some elementary notions, of being and of simple attributes, are predicated of God and of creatures, not analogously but univocally.] **A. Véronnet.** 'The Necessary Atom.' ["The atom is a fact, like the law of multiple proportions which it explains, in the same way that ether is a fact, like light which it explains."] **M. Baelen.** 'The Monist Mechanism of Taine, his Psychology.' [Taine set aside all permanent being, the Ego and the faculties of the mind, and was a determinist in consequence.] 'The Sixth International Congress of Psychology, Geneva, 3-7 August, 1909.'—1^{er} Novembre, 1909. **H. Driesch.** 'Biology and Transformism.' [The substance of the Gifford Lectures. "The hypothesis of a fortuitous variability, as sole cause of specific variation, is absolutely no explanation at all of the origin of new organs, of the mutual harmony of the parts of the body, and of the harmony between different individuals, e.g., between the two sexes. The complete bankruptcy of Darwinism as a general theory of descent is altogether beyond doubt."] **A. Sertillanges.** 'Desire and Will According to St. Thomas.' ["As Intelligence is in a certain manner all things, so we ought to say that Will in its fundamental tendency envelops all things: hence the insatiability of human desire: thereon is founded the indetermination of the Will in regard to every object that is not equal to Being, an indetermination otherwise called Freedom."] **G. Jeanjean.** 'The New Paedagogy.' [Paedology, condition and bibliography of, in various countries.] **L. Billia.** 'What is the use of Laboratories of Psychology?' [The name 'laboratory' here is ill-chosen, and observations need to be conducted with more of an eye to moral im-

provement.] **T. Lauret.** 'The Object of Metaphysics.' [Relation of Metaphysics to Physical Science.] **G. Sembel.** 'Habit.' [Habit not mere Inertia. Habit attenuates consciousness, and diminishes effort.]—1^{er} Decembre, 1909. St. Anselm of Canterbury, 1033-1109. **A. Dufourcq.** 'St. Anselm, His Times, His Function.' **Domet de Vorges.** 'The Atmosphere of Philosophy at the Epoch of St. Anselm.' **A. Porée.** 'The School of Bec and St. Anselm.' **J. Dräseke.** 'Sources of St. Anselm's thought.' ['Anselm was a decided Platonist, though unaware of it himself. His merit consists in this, that he was the first to found the belief in God upon the essential concepts of the human mind.'] **A. Lepidi.** 'St. Anselm and the ontological proof of the existence of God.' [Favourable, attempts to rehabilitate the proof by changing 'that than which no greater can be thought' into 'that than which no greater can be'.] **J. Geyser.** 'St. Anselm and the *a priori* demonstration of the existence of God.' [Unfavourable, argues that the demonstration proves no more than that the idea, which we have of God, forbids our thinking of His not existing; but whence comes this idea? it comes of faith; the demonstration then reposes upon faith.] **B. Adthoch.** 'Anselm and Gaunilon.' [Wenilo, Anselm's opponent, who alleged the example of the Island of Atlantis. Favourable to Anselm.] **E. Beurlier.** 'Reason and Faith in the Philosophy of St. Anselm.' **J. Bairivel.** 'The Theology of St. Anselm.' **B. Maréchaux.** 'The Sanctity of St. Anselm.' **Anonymous.** 'The Centenary Feast at Aosta.'

ARCHIVES DE PSYCHOLOGIE. Tome ix., No. 1. **E. Abramowski.** 'L'image et la reconnaissance.' [Report of experiments, made in 1902, to determine, (1) whether the existence in memory of two factors, representative and non-representative, can be strictly demonstrated, and (2) which of these factors is effective in the act of recognition. A first series, in which complicated visual figures were exposed for memorisation under various conditions, showed that recollection is an affective phenomenon partially intellectualised in images; the non-representative or affective factor appeared as consciousness of omission (vague or specific), as feeling of recognition, and as verbal or imaginal symbolism. A second series, aiming by similar means at an analysis of the process of recognition, showed that recognition may take place without the intervention of an image; it is, again, an affective phenomenon, a feeling of familiarity incorporated in the impression.] **H. Piéron.** 'L'adaptation aux obscurations répétées comme phénomène de mémoire chez les animaux inférieurs; la loi de l'oubli chez la limnée.' [Experiments upon the pond-snail *L. stagnalis*. If a shadow is thrown upon the animal it retracts into its shell; but if the shadow falls on it again and again, in rapid succession, this adaptive movement presently ceases. If the series is repeated, after an interval, the cessation of the response sets in earlier than before; and so on with further series. The author interprets his results as phenomena of memory, in a broad sense, and finds them analogous to the results obtained with human observers by Ebbinghaus' method of economy of learning. He is thus enabled to formulate a general law of retention, which holds both for the higher and the lower forms of life.] **J. Gonin.** 'Un cas d'aphasie visuelle pure.' [Report and discussion of a case of pure visual aphasia. The patient, a girl of five years, had not yet learned to read, so that there was no complication by alexia. The child showed a left hemianopsia.] **J. Borle.** 'Un cas de délire épileptique chez le chat.' [A cat had epileptiform seizures, due to terror. One of her kittens presented similar symptoms, which, however, soon took the form of true epilepsy. During a fit this second cat devoured her own kitten, afterwards showing

amnesia. There is thus a close resemblance to the phenomena observed in man.] **C. Werner.** 'IV^e Réunion des Philosophes de la Suisse Romande, Rolle, 24 juin, 1909.' **A. Thauziès.** 'Expérience d'orientation lointaine.' [Report of the arrival at their home stations (Versailles, Guéret, Gannat) of pigeons released at Geneva during the Psychological Congress.] Bibliographie. Notes diverses.

ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd. li., Heft 5 und 6. **K. L. Schaefer.** 'Bibliographie der psycho-physiologischen Literatur des Jahres 1907.' [Issued May, 1909; 2,610 titles. The Psychological Index, issued May, 1908, had 2,997 titles. Are the two bibliographies necessary? It would seem that a supplement to the Index would meet all needs.]—Bd. lii., Heft 1 und 2. **K. Koffka.** 'Experimental-Untersuchungen zur Lehre vom Rhythmus.' [Report of two series of experiments upon visual rhythm, in the one of which a black rectangle is alternately covered and exposed, while in the other a light disc appears and disappears upon a dark ground. Results: a regular succession of stimuli may make the impression of simple regularity; this impression may be accompanied by specific group-formation; the same stimuli may arouse the impression of rhythm, for which some sort of group-formation is necessary; the limits of tempo for subjective rhythmisation of regular series are about 115 and 2400σ; the length of the groups varies between 650 and 5600σ; rhythm may be aroused by visual as by auditory stimuli, although motor ideas are of greatest import for the rhythm experience. For the occurrence of rhythm, it is necessary that the formation of groups be supplemented by accent; and accent is something functional, lying behind the phenomenological, though phenomenologically evoked; it is the expression of the observer's 'activity'.] **A. J. Schulz.** 'Untersuchungen über die Wirkung gleicher Reize auf die Auffassung bei momentaner Exposition.—I.' [Ranschburg and Aall found that the momentary exposure of series of letters and numerals gave different results, according as the series were heterogeneous (type *abcdef*) or homogeneous (types *abcccd*, *abccxd*): the latter showed a great preponderance of error. New experiments, with simple geometrical forms, with colours contrasting qualitatively, and with colours contrasting in tint, led in general to the opposite conclusion, though qualification is necessary in special cases.] Literaturbericht.—Bd. lii., Heft 3 und 4. **P. Stein.** 'Tatbestandsdiagnostische Versuche bei Untersuchungsgefangenen.' [Report of use of Jung's association-test with criminal insane subjects, with confessed criminals, with prisoners who had made a part-confession, and with prisoners who denied the crime of which they were accused. Results: the test offers no technical difficulties; the quality of the reactions is significant, though psychoanalysis is indispensable as a supplement to the test; the average times of reaction are also extremely significant, though again analysis is valuable, especially in the case of the control-observers; the method of reproduction, on the contrary, is of little value. The experiments bring out certain limitations of the test, but show that it possesses positive validity. If applied in legal practice to accused persons, it should precede any examination in the court room.] **A. J. Schulz.** 'Untersuchungen über die Wirkung gleicher Reize auf die Auffassung bei momentaner Exposition.—II.' [Introspective account of observers' experiences during and after the exposure. The results are explained by the tendency of the identical elements to stand out clearly, at once and together; this tendency failed to appear in the work of Ranschburg and Aall, because their material favoured a successive, while the new material favours a simultaneous apprehension of the series.] Literaturbericht.—Bd. lii., Heft 5 und 6. **R. Dodge.** 'Eine experimentelle Studie der visuellen

Fixation.' [Translation of the writer's 'An Experimental Study of Visual Fixation,' published in English in 1907.] **S. Alrutz.** 'Halbspontane Erscheinungen in der Hypnose; experimentelle Untersuchungen.' [Three hysterical subjects showed, under hypnosis, functional changes that were not due to suggestion, but accompanied other changes induced by suggestion or by way of a physiological reflex. These half-spontaneous phenomena were of four kinds; the connexion might obtain between motor and sensory function, between analgesia and vascular constriction, between one sensory function and another on the same side of the body; and between motor and sensory function and tendinous reflexes. After reviewing the recorded cases, the writer offers a physiological explanation, in terms of a reciprocally effected change in the excitability of the sensory and motor centres, possibly resulting from exclusion of the suggested centre. Hysteria, he thinks, is not essential, though it is favourable to the phenomena; on the other hand, the phenomena themselves may give us the key to a number of disputed questions regarding hysteria.] *Literaturbericht.*—Bd. liii., Heft 1. **L. J. Martin.** 'Über ästhetische Synästhesie.' [Report of experiments, by the serial method and the method of suggestion, upon photographs and coloured reproductions of works of art or natural objects, and upon plain colours, made with a view to the description and evaluation of the 'pseudo-sensations' attaching to æsthetic contemplation. These pseudo-sensations are the sense-experiences synæsthetically aroused by the sight of painting, sculpture, architecture, or by the reading or hearing of literary productions. The results show that the lower senses not only possess æsthetic value, but that their pseudo-sensations may actually form the basis of an æsthetic impression. They show, on the other hand, that it is impossible to ground a theory of æsthetics upon the facts of synæsthesia, since this may be wholly lacking where the æsthetic impression is strong, may be crossed by association, and again may, if well marked, prompt a negative as well as a positive judgment. The pseudo-sensations themselves partake of the character both of sensation and of image, and thus form a connecting link between the two. The writer describes them in detail, and also discusses certain points of method.] **S. Witasek.** 'Lokalisations-differenz und latente Gleichgewichtsstörung.' [It had been objected to the writer that his 'difference of monocular localisation' was really due to a latent divergence of the eyes. In disproving this criticism, he takes occasion to report further modifications of the experiments, and to extend his theoretical discussion, especially with regard to a possible translation of the point of attention; he also gives a geometrical derivation of the difference of binocular and monocular localisation. The result of the previous paper is reaffirmed.] *Literaturbericht.*—Bd. liii., Heft 2 und 3. **H. S. Langfield.** 'Über die heterochrome Helligkeitsvergleichung.' [All the indirect methods of colour photometry base in the last resort upon the possibility of the direct method, *i.e.*, of the direct comparison of colour with colour or with grey for equality or difference of tint. The writer reports experiments made, in this direct way, by the large Helmholtz spectral apparatus and by a modification of Hering's tinting apparatus. The method is feasible and leads to consistent results, if the observer has had sufficient practice, and if he adheres strictly to a single criterion. Two modes of judgment proved to be common: a judgment in terms of the 'shine' of the colours, and a judgment in terms of their 'density' or 'opacity': in the latter case, the colours compared were seen as screens standing before a source of light.] **M. Levy-Suhl.** 'Die hypnotische Beeinflussung der Farbenwahrnehmung und die Helmholtzsche Theorie vom Simultankontrast; experimentelle Untersuchung.' [Helmholtz explained contrast from

psychical factors. If his view is correct, then the phenomena of contrast should be variable by hypnotic suggestion. A series of careful post-hypnotic experiments with coloured shadows, tissue-covered discs, etc., gave, however, a negative result. Thus, a field might be seen as deep blue, by suggestion; yet the shadow cast by objectively white light showed as black. Or a blue field might be seen as colourless, by suggestion; yet the shadow still showed the contrast yellow. The writer accordingly accepts the Hering (physiological) explanation.] **S. Meyer.** 'Zum Traumproblem.' [Dream ideas are not hallucinatory, since they lack the spatial and temporal reference of perception; they are not very intensive, but are overestimated in regard to intensity; they are not specially clear; and they are rarely coloured by strong emotion. Hence there is in dreaming no dominant motive, no prevalent impulse, no volition; dreaming is simply a disturbance of sleep, a first beginning of waking. The writer criticises adversely Freud's theory and interpretation of the dream consciousness, and emphasises strongly the scrappy, incoherent character of dreams, and the tendency to round them out in subsequent narration.] *Literaturbericht.* Gesellschaft für experimentelle Psychologie.—Bd. liii., Heft 4 und 5. **A. von Sybel.** 'Über das Zusammenwirken verschiedener Sinnesgebiete bei Gedächtnisleistungen.' [Experiments undertaken by the methods of learning and of right associates, with various modes of presentation of nonsense-syllables and of connected material, to answer the question of the influence of the co-operation of sense departments in presentation upon the economy of learning and upon retention. The method of right associates was supplemented by introspective reports upon definite topics, and the reports were subjected to statistical treatment. The results are set forth in detail, with constant reference to the ideational types of the observers. Thus, as regards reading aloud and reading silently, it is a general rule that the former procedure saves time, though the number of right associates is larger in silent reading with constant motor attitude. The individual modes of learning are carefully analysed. On the matter of the co-operation of memory-elements from different sense-departments, the writer finds that the sensory mode of learning becomes, under certain circumstances, a function of the number of repetitions; it accommodates itself the better to the mode of presentation, the less the particular memory is dominated by a single sense; it may change with practice; etc., etc.] **F. M. Urban.** 'Über die bei Durchgangsbeobachtungen auftretende Dezimalgleichung.' [A comparison of Meissner's tables of systematic errors in astronomical observation with the results of psychological experiment shows a close agreement. Thus the estimate of the round second appears oftener than would be expected by the law of probabilities, but is on the average correct; and the accordance of actual and estimated time in the interval 0·6 to 0·7 sec. confirms the existence of a psychological indifference-point (placed by experiment at 0·5 to 0·7 sec.) between the zones of underestimation and overestimation. It is therefore best to leave the astronomical observer uninstructed, and to apply a subsequent correction to his results.] *Literaturbericht.*—Bd. liii., Heft 6. **G. Heymans.** 'Untersuchungen über psychische Hemmung,' v. [The previous papers had dealt with the inhibition of sensation by sensation; and critics had urged that sensorial, peripheral inhibition is an entirely different matter from ideational inhibition. The present experiments were undertaken to meet the objection. It was found that the differential limen for sensations of light varies according as there is present in the adjacent field a greater or lesser light difference, and under circumstances in which the effect of factors such as contrast is eliminated. It follows then that

a given 'feeling of difference' may be inhibited by another 'feeling of difference'; the objection has been successfully met, and the writer's well-known view of the relation of sensation to stimulus is confirmed.] *Literaturbericht.*—Bd. liv., Heft 1 und 2. **F. Hillebrand.** 'Die Heterophorie und das Gesetz der identischen Sehrichtungen.' [An exposition and rejoinder called forth by Witasek's recent papers, vols. l. and liii. (1) The law of identical visual directions simply lays down the rule of localisation within the given visual field; it says nothing of the localisation of the visual field itself, nothing *e.g.* of the localisation of the point of fixation in the sense of the binocular line of regard. (2) Witasek's results are due to an exophoria. Had he repeated his test-experiment on a large number of persons, the results would probably have shown variation, since some of the observers would have had an esophoria. (3) Every position in the visual field may be resolved into two perceptual variables, distance and direction, just as a tone may be resolved into pitch and intensity; for every difference of position may be increased or decreased by change in these two regards. Direction thus applies primarily to the single point in visual space; secondarily, when we abstract from the act of vision and replace this by a second objective point, it implies two points or positions.] **R. Heine.** 'Ein Beitrag über die sogenannten Vergleichen übermerklicher Empfindungsunterschiede.' [Experiments with grey discs in light adaptation. The results are like those of Fröbes: the subjective mean, apart from certain values obtained with a middle range of intensities, lies higher than the geometrical mean; in the range of highest intensities, and in certain instances within that of moderate intensities, it lies higher than the arithmetical. (It is to be noted that in both sets of experiments the difference between the two objective means decreases as the brightness of the discs is increased.) If judgment by degree of cohesion is forbidden, the subjective mean falls, as a rule, even below the geometrical; the task of judgment is now extremely difficult.] **R. Mueller-Freienfels.** 'Die associativen Faktoren im ästhetischen Geniessen.' [Emphasises the complexity of the aesthetic attitude, and illustrates certain factors: the feelings of activity, ranging from the mere pleasure in being occupied to that of the play of the artistic imagination, the feelings of form (composition of picture or drama), of tension and relaxation, of surprise; objective and subjective associations and reproduced feelings; feelings of internal imitation of bodily movements and attitudes (*nacherlebte Zustände*), and feelings which are read interpretatively into works of art, music or architecture (*zugefühlte Z.*); the idea of self in the attitudes of participant and of spectator. The paper gives a wealth of detailed observation, and offers, besides a criticism of the empathy-theory, a discussion of objectivity and subjectivity in aesthetic appreciation, and a defence of subject or meaning as a factor in the aesthetic effect.] **H. Schuessler.** 'Über die Verschmelzung von Schallreizen.' [Experiments with the electric spark and the sound-hammer. Spark-pairs fuse most easily in the order strong-weak; least easily as weak-weak. Hammer-pairs fuse best when a stronger sound precedes and a weaker follows; hammer-triads should also begin with a strong stimulus, though triads beginning with a weak sound fuse more easily than pairs; certain triads fuse more readily to a pair than to a single impression. Fusion may appear with pairs at an interval of 135σ ; with triads at 189σ ; the least average fusion-time found was 3σ , the greatest almost 100σ . Distributed attention is more favourable to fusion than indefinitely directed, and this again than definitely directed attention.] *Literaturbericht.* Aufruf. [Notice regarding the Institute for Applied Psychology.]

ARCHIV F. D. GESAMTE PSYCHOLOGIE. Bd. xv., Heft 1 und 2. K. Fischer. 'Die objektive Methode der Moralphilosophie bei Wundt und Spencer.' [The objective method in ethics starts out from the given facts of history and of society, founds itself upon the history and natural history of custom (anthropological ethics) and upon the general history of civilisation (historical ethics), and attempts to evaluate the norms objectively expressed in law (juristic ethics), or the motives to action demonstrable in the phenomena of commercial intercourse (ethics of political economy). The writer expounds and criticises the use made of the method by Wundt (64 pp.) and Spencer (7 pp.). In conclusion he discusses three questions: the significance of the method for an inquiry into the origin of the moral consciousness; its service in the establishment of the principles of morality; and its importance as justifying the requirement of a moral life. His view is in general favourable; on the last question, e.g., he thinks that the method can show what judgments of value have universal validity, and that an historical consideration of the sceptical schools furnishes arguments for the requirement of a moral life.] K. S. Laurila. 'Ist der ästhetische Eindruck aus einer oder mehreren Quellen abzuleiten?' [Lipps refers the æsthetic impression to empathy; K. Lange to conscious self-deception; Groos to inner imitation; and Cohn, Elster and Tolstoy all agree in seeking a single ultimate source. On the other hand, Fehner and, more recently, especially Volkelt and Dessoir have argued for a multiple derivation. The writer urges that we may find a unitary origin for æsthetics in the affective function, in the sense that all characteristic features of the æsthetic impression are, in the last resort, intelligible and explicable from the predominance of feeling in the state of consciousness in which that impression consists.] A. Schlesinger. 'Der Begriff des Ideals; systematisch-psychologische Darstellung und Würdigung der bisherigen Idealtheorien.' [This is the continuation of a study the first part of which was published, in separate form, under the title "Der Begriff des Ideals: eine historisch-psychologische Analyse" (1908). Beginning with the definition of an ideal as that mental formation which for the experiencing subject contains in pure form some object as connected with some sort of requirement, the author offers as its final definition the mental formation which for the experiencing subject contains in pure form of transcendence (*Ausserwirklichkeit*) some object as connected with the requirement of its actuality (*Wirklichkeit*). The present instalment of the work offers a systematic psychological exposition and evaluation of typical theories of the ideal, and concludes with reference to the value of such conceptual analysis to the normative sciences, and in particular to ethics.] F. A. Volpers. 'Ein Beitrag zur romantischen Pädagogik.' [A sketch, with running commentary, of the educational views of J. P. F. Richter ('Jean Paul') as set forth in the *Levana oder Erziehungslehre* (1807).] J. Linwurzky. 'Zum Problem des falschen Wiedererkennens (*déjà vu*).'] [The writer offers, on the basis of his own experience, the three following conditions of the phenomenon: a state of weakness or fatigue, which limits the persistence of ideas and hinders their reproduction; the anticipation in perception or idea of a coming experience; and a complete separation between this anticipation and the actual experience, so that when the latter occurs the former has no trace remaining. He criticises the somewhat similar explanation given by Heymans.] Literaturbericht. Einzelbesprechungen. [Becher on Semon, *Die Mneme als erhaltendes Prinzip im Wechsel des organischen Geschehens*, 2nd ed., and on Rignano, *Über die Vererbung erworbener Eigenschaften*; Hypothese einer Zentroepigenese, enlarged Germ. ed.] Referate. J. Pikler. 'Über Dr. L. v. Renaulds Kritik meiner Lipps-

Kritik; eine Entgegnung.' **L. v. Renauld.** 'Zur Entgegnung Piklers.' [Apropos of v. Renauld's review of Pikler's *Ueber Th. Lipps' Versuch einer Theorie des Willens*, 1908.]—Bd. xv., Heft 3 und 4. **F. M. Urban.** 'Die psychophysischen Massmethoden als Grundlagen empirischer Messungen.'—I. [First part of a highly technical paper, in which the relation between the method of just noticeable difference and the method of constant stimuli is discussed in detail. The writer aims to show that the former method closely resembles the method employed in empirical measurements, and that its understanding is of importance for the theory of errors of observation. This theory rests upon the principle of the arithmetical mean; and the analysis of the method of just noticeable differences indicates that under the conditions of systematic observation the arithmetical mean of a group of results does in fact represent their most probable value.] **E. Becher.** 'Einige Bemerkungen über die Sensibilität der inneren Organe.' [Discussion of Meumann's critical article; summary of recent investigation; report of new experiments. The author now inclines to accept Meumann's opinion that numerous internal organs possess a direct sensitivity, but he still emphasises the importance of indirect influences upon consciousness.] **E. Meumann.** 'Über Lesen und Schreiben im Traume.' [Careful record of dreams in which reading or writing played the principal part. Such dreams are rare: partly because reading and writing are among our commonest and most accustomed experiences, partly also because they are highly complicated activities, and in dreaming consciousness is greatly reduced. The character of the remembered dreams recalls the analogy which Kraepelin found to hold between speech in dreams and certain pathological derangements of the speech-function; there are, however, notable differences between dreams of speech and dreams of reading and writing.] **E. Meumann.** 'Über einige optische Täuschungen.' [Figures drawn with perspective shading (barrels, cones, rings, etc.) show irregularities of contour: the lighter parts bulge out, the darker shrink in. The illusion is so clear that it is involuntarily allowed for by draughtsmen. Its main cause is, undoubtedly, irradiation. But since this, a purely optical factor, is here opposed to the associative factor of perspective apprehension, we have in the figures clear evidence that physical and physiological conditions may outweigh psychological. The evidence is especially valuable in view of the present conflict of theories (Wundt, Lipps).] *Gesellschaft für experimentelle Psychologie. Literaturbericht.*

PHILOSOPHISCHES JAHRBUCH. Bd. xix., Heft 4. **Gutberlet.** 'Eine Ethik des freien Willens.' [This short paper is partly a review, partly a refutation of Max Wentscher's *Ethik*, which appeared last year. The writer fully appreciates the value of a work that affirms Free-will in contradiction to many modern thinkers; but considers that in raising Free-will to the height of a moral principle, he has gone too far. And, though not scornfully hostile to Christianity, he in several places misjudges its doctrines and tendencies.] **Klunke.** 'Der Instinkt.' [The writer goes on to point out that instinct, though partly a mechanical and physiological process, has also its psychological side; and he defines it as a psychophysical activity which under certain stimuli causes the psychophysical system to perform actions which surely and uniformly tend towards a purpose which, however, is unknown as such. A third article, in conclusion, is to follow.] **Stehle.** 'Die Phantasie und ihr Tätigkeit.' [This second and last paper on the subject examines the phenomena of dreams, forebodings, mental suggestions, Telepathy and Spiritism, gives several instances of phenomena of the latter kinds, criticises the scientific explanations offered, and shows that in certain

cases they can only be explained by the direct action of one mind upon another.] **Endres.** 'Fredegisus und Candidus.' [A short paper concerning two philosophers of the early Middle Ages (782-834 *circiter*). The former was deeply imbued with the ideas of Alcuin, his master, and in a short tractate, *De Nihilo et Tenebris*, strives to prove that both have objective existence. The latter, whose work, *Dicta Candidi*, is still extant, therein attempts, somewhat lamely, to prove God's existence. He ascends from inatter to life, thence to man, and to a 'Higher One' yet.] **Uebinger.** 'Nikolaus Treverensis.' [A long article, strictly historical, on the career and works of Nicholas of Treves, dividing it and them into five periods: his student life (1425); his secretaryship with Cardinal Orsini (1426-7); his life in his own country (1428-9); at Rome (1430), and on the Rhine (1430-7).]

RIVISTA DI FILOSOFIA. Anno i., No. 2, March-April, 1909. **Roberto Ardigò.** "Infinito e Indefinito." **Lorenzo Michel Angelo Bibbia.** 'La percezione intellittiva.' [The doctrine of intellectual perception, originated by the immortal Reid, was completed and amended by Rosmini. The process so designated involves four distinct elements: (1) The sensation; (2) the idea or the universal (by this seems to be meant what we call the concept); (3) the affirmation or judgment by which sensations are brought under concepts; (4) existence. This last is apparently seized by intuition, and answers to the copula in a proposition. Now the leading difference between Rosmini and Ardigò seems to be that the head of the Italian Positivist school, while holding on to the idea of existence as the necessary assumption of all knowledge, ascribes our possession of it not to a quasi-mystical intuition but to the gradual evolution of the less into the more distinct, vague sensations clustering into coherent perceptions and judgments.] **È. d'Ors.** 'Religio est Libertas.' [According to Prof. d'Ors all life whether it consists of work or play essentially takes the form of a struggle between ourselves and an opposing force—the not-ourselves. First we fight against the external world with our physical organs, then by a new dualism mind is opposed to body, and finally the mental faculties themselves come to be regarded as part of the environment, of the cosmic fatalities that hem us in. Then nothing remains but the pure consciousness of freedom as such—and the recognition of this is the ultimate and only true religion.] **Rodolfo Mondolfo.** 'Studi sui tipi rappresentativi.' [A series of observations on his own mentality have led the writer to the conclusion that while visual and auditory sensations are actually revived in memory, kinæsthetic or sensori-motor feelings are not revived as images but physically reproduced as an accompaniment of more or less conscious movements.] **A. Faggi.** 'Lo Schelling e la Filosofia dell' Arte.' [An account of Schelling's philosophy of art as set forth in the famous 'Lectures on University Studies,' recently reprinted in the three-volume edition of his select works. Schelling's idea of a new mythology adapted to the demands of modern thought is illustrated from Leopardi and more particularly from Oscar Wilde's 'De Profundis'.] **Neno Simonetti.** 'La "ricerca scientifica" e l'ideale della scuola.' Autorelazioni, etc.—Anno i., No. 3, May-June, 1909. **Adolfo Ravà.** 'Introduzione allo studio della filosofia di Fichte.' [The dawn of the twentieth century has been signalled by a reaction against the ideas of the nineteenth century closely resembling the romantic movement of a hundred years ago. Now Fichte's career coincides with and explains the great reaction that came after Kant's philosophy and with the French Revolution. It should therefore be studied if we wish to understand the similar crisis of our own day. It may be mentioned that the parallel between Kant's Critique and the Revolution was,

we believe, first suggested by Fr. Schlegel.] **Erminio Troilo.** 'La relazioni tra la filosofia e la scienza.' [There is no philosophy of any particular science, but there is a philosophy of science in general, or, to put the same truth differently, philosophy supplies the abstract form and science the concrete content which in their synthesis constitute knowledge as a whole. More precisely: Epistemology or theory of knowledge is the only possible philosophy. We must return to Kant's formula: Concepts without intuitions are empty; intuitions without concepts are blind. But Kant's particular systematisation is not binding on the thought of the present day.] **Adolfo Levi.** 'Il fenomenismo empiristico.' [Gives, so far, a careful account of the theories of knowledge represented by Mill's 'permanent possibilities of sensation,' with the reserve of personal identity as an inexplicable ultimate, and of Avenarius's theories of 'least effort' and 'introjection'. The subject is to be continued in a future number.] **Ludovico Limentani.** 'La Supremazia del criterio morale nella valutazione degli atti.' [How can the moral law, once so respected, validate its claims against the rising scepticism of our age, an age in which the right of the stronger, the worship of success, the accomplished fact, and the legitimacy of natural instinct are asserting themselves with ever-increasing audacity against the old asceticism? Not at any rate, in the writer's opinion, by a return to the religious beliefs of the past. But neither does modern science seem likely to take their place as an ethical sanction. Still Spencer at least shows a good spirit and offers a few helpful suggestions. Nor is Nietzsche so black as he has been painted. Meanwhile amorality has at least freed us from the intolerable oppression of sermons. Nevertheless some may think that the jeremiads of Limentani offer a strong family resemblance, though not on the side of piquancy, to the discourses of Father Vaughan.]—Anno i., No. 4, July-September, 1909. **Roberto Ardigo.** 'Fisico e psichico contrapposti.' [Contends against Tyndall and Griesinger that there is no insuperable chasm between the world of extension and the world of consciousness. They exhibit the common character of existence, represented by each under a different specification. That irreconcilable opposition of which we hear so much is the result of our own intellectual evolution whose very law is to pass from the less to the more-distinct. Positivism has no more to fear from the reactionary big-wigs among the University professors of our day than the physics and astronomy of Galileo and Kepler had to fear from the Aristotelian big-wigs of the early seventeenth century.] **Alessandro Chiapelli.** 'La critica filosofica e il concetto del "Dio vivente".' [The old anthropomorphic conception of a personal God has been irrevocably destroyed by modern thought. But there is room for something as much above personality as that is above mechanical energy, to be conceived after the analogy of the ultra-violet rays in the solar spectrum. The Unknowable of Herbert Spencer and the Eternal Consciousness of T. H. Green seem both to point towards such a God, who also seems to be foreshadowed in the self-thinking thought of Aristotle. But all will not agree with Prof. Chiapelli in holding that quantitative analogies can be transferred in this summary fashion to the dialectic of concepts.] **Adolfo Levi.** 'Il fenomenismo empiristico.' [After completing his account of Avenarius Levi goes on to analyse the theories of Mach and Ostwald. His conclusion is that phenomenism, after approaching Kant's criticism, as closely as was consistent with its premises, in the philosophy of Renouvier, returns to Hume's position with J. S. Mill, subsequently tending with Avenarius, Mach, and Ostwald towards a realism which in the case of Ostwald seems much more nearly akin to materialism than to ordinary experience.] **Ludovico Limentani.** 'La Supremazia del Criterio Morale.' [After all there is a good deal to

be said for the old-fashioned morality and against the transference of popular sympathy from the law-breaker to his victim. In view of the present corruption it is desirable as a first step that moral education should take a greater place and be carried on by more enlightened methods in Italian schools. This article affords one more illustration of the fervour with which the whole higher intellect of Italy is now throwing itself into the educational question.] Autorelazioni, etc.

RIVISTA FILOSOFICA. Supplemento al Fascicolo v., Anno x., November-December, 1908. [A farewell number of the review which has now been absorbed into the *Rivista di Filosofia*, concluding with a general index for the ten years during which it has appeared.] **A. Levi.** 'Il fenomenismo neo-criticista di Charles Renouvier (contin. e fine).' [Whatever we may think of Renouvier's Metaphysics, he unquestionably deserves the credit of having formulated the great questions with clearness, penetrated their real significance, and set them in their true light.] **D. Rodari.** 'J. J. Burlamacchi e J. J. Rousseau.' [The object of this study is to discredit Rousseau by disputing his originality. But the writer fails to show that Rousseau's greatest idea, the theory of the plebiscite which he first revived from the practice of antiquity and threw with signal success into the arena of modern politics, was in any way anticipated by Burlamacchi.]

IX.—NOTE.

MIND ASSOCIATION.

THE Annual General Meeting of the MIND Association will be held at 22 Albemarle Street, London, on Friday, 24th June, 1910, at 3 P.M. Members of the Association are invited to attend a discussion of the Psychological Society to be held shortly after the meeting, and the discussions of the London Aristotelian Society and the Psychological Society to be held in the morning and afternoon respectively of the following day. Members of the Association will receive a complete programme and proofs of the papers: others who wish to receive them must apply before 10th June to the Hon. Secretary, Aristotelian Society, 22 Albemarle Street, London, W.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. HENRY STURT, 5 Park Terrace, Oxford; or with the Hon. Treasurer, Dr. F. C. S. SCHILLER, Corpus Christi College, Oxford, to whom the yearly subscription of one guinea should be paid.

MIND

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OF

PSYCHOLOGY AND PHILOSOPHY



I.—THE PSYCHOLOGICAL EXPLANATION OF THE DEVELOPMENT OF THE PERCEPTION OF EXTERNAL OBJECTS (I.).

BY H. W. B. JOSEPH.

THE perception of things in space is an achievement which has always troubled the psychologist, in his efforts to explain the workings of the mind. This is due to his tendency to treat the mind as a thing having states, whose emergence and the order of their succession he will reduce to laws. Herein he will proceed empirically, the laws being such as the facts require us to admit, if they are to be reduced to law at all, but not being self-evidently necessary. He would have it therefore that we start, in seeing and touching no less than in regard to hearing or smelling, with certain sensations; and that the steps by which we are led to apprehend, or to suppose, things independent of ourselves existing in a space that is 'without the mind' exhibit the same laws of the mind's working as are exhibited in other 'associations of ideas'. For if it be allowed that the mind, upon the occasion of certain sensations, succeeds in apprehending things in space which are not its sensations, and if this cannot be shown to follow from those laws of the mind's working which the psychologist detects in other fields, he has to acknowledge something in the mind beyond the reach of his methods of explanation; and its procedure, not being justified as the outcome of psychological laws, must be justified, if at all, as an expression of its rationality, *i.e.*, of its power to understand what must be; and this is to abandon the method of psychology as positive science. For as positive science psychology

treats the mind as a thing, whose states at any moment are determined by the previous states of itself and of other things according to laws; but a mind that proceeds from the apprehension of one thing A to the apprehension of another thing B on the ground of a real connexion between the natures of one and of the other, although that connexion and even B itself had not been previously apprehended, is not determined in the manner stated.

There are some psychologists who have thought that, as we have at the outset no data or starting-points except each his own sensations or states of consciousness, so what we come to speak of, or to know, as the external world is in reality no more than a complex of these, or a fiction in the mind to which they give rise. Of this opinion were Hume, James Mill, and John Mill: to mention no others of the 'English Associationists'. And it must be confessed that there is a sense in which Kant might be held to share their view, though the word fiction is perhaps inappropriate to appearances that are the necessary result of sensibility and understanding working in the same way in every mind. Others have believed in an external world that is not describable in terms of sensation and possibilities of sensation, but exists whether we are conscious of it or not, and can be described in some degree as it independently exists. Of these notoriously was Locke: who, though he held that all our knowledge of things in space came through the impressions they produced in the mind, nevertheless relied at times for his account of what bodies are in themselves upon the fact that the mind is compelled to conceive them as being thus and thus (Essay II, iv. 1; viii. 9). Among contemporary psychologists Prof. Stout may be named as holding both the doctrine that we know an independently real external world, and the doctrine that we gain this knowledge by a process psychologically traceable, in which we start from experiences merely of our own sensations.

It is the object of this paper to criticise the ninth chapter of his *Groundwork of Psychology*, in which he has attempted to describe this process. I desire to show that, if any of us began and proceeded as he supposes, it is unintelligible that he should end in the 'Perception of External Objects and the Self'. I have selected this work of Prof. Stout's because it is the latest of his three books, and I have ventured to choose him to criticise because I do not think any one else will succeed where he fails. It might be said that, as the doctrine of the chapter is largely based upon the views developed in Prof. Ward's celebrated article upon Psychology in the *Ency-*

clopædia Britannica, I ought to have directed my criticisms to that quarter. I do not think it would be difficult to show that the same defects vitiate Prof. Ward's exposition. But it is not, I hope, inconsistent with the respect which I feel for the thoroughness of the effort which that article makes to be true to its own presuppositions, to say that the later work puts the view more clearly, without omitting any elements it may have of strength. I believe indeed that no psychologist has succeeded any better, who has attempted to trace the genesis of our perception of space, or (for the distinction has not always been maintained) of space itself, from the experienced conjunction of sensations or presentations of certain qualities; I should certainly make no exception in favour of the chapters of Dr. William James. But some particular exposition must be taken for examination; and I have chosen that of a psychologist not second, as I believe, to any living.

'The external world,' so the chapter opens, 'as a more or less systematic whole becomes known to us by a process of ideal construction, which will be dealt with later on. But this ideal construction has for its basis and presupposition a perceptual cognition of external objects, and it is with this that we are at present concerned.' Here it is clearly intimated at the outset, that we do know external objects; Prof. Stout is not a Berkleian. What then is an external object? 'An external thing is extended in space, and spatially related to the body of the percipient and to other extended things. Thus an essential part of our task will be to give some account of the perception of spatial relations. But besides their spatial character, external objects have for us¹ a peculiar kind of independence. They exist, persist, and change independently of us and of the vicissitudes of our experience, just as we exist, persist, and change independently of them. We have to investigate the mode in which we come to cognise spatially extended objects as possessing this independent reality.' Though 'the cognition of spatial relations and of external reality develop together'—as indeed it is hard to see at any rate how the former could develop without the latter—Prof. Stout treats them separately. I shall do the same,—and argue that in his account of spatial relations and of the genesis of our apprehension of them there is nothing which makes it intelligible how they should come to be regarded as qualifying things independent of us.

¹ This seems to mean 'are known by us to have'; cf. the next sentence but one.

For the sake of clearness I will state at the outset the argument which I wish to establish in the present paper. Prof. Stout acknowledges that we come to perceive objects extended in space and independent of our perception of them. These objects then cannot *be* our sensations, and the space relations among them cannot *be* relations among our sensations. On the other hand we are aware at the outset only of our sensations and of relations subsisting among some of them in virtue of certain qualitative differences. These qualitative differences are called local signs; and as local signs they should signify the position of objects in space. But they could only come to signify this to us, if we could apprehend objects in space and their relative positions *as well as* sensations and their various qualitative differences, and learn to connect the two. To admit this however would be to assume at the outset a power of perceiving objects in space, as well as a susceptibility to sensation, and not to explain how we come to perceive those objects. Therefore, though the qualitative differences are called signs, *i.e.*, *ex vi termini*, signs of something else, the sensations possessed of them are treated as *being* the terms whose space-relations we come to apprehend, and the relations between the sensations in respect of their qualitative differences, as *being* space-relations. This I believe to be really nonsense; my sensations cannot be related to each other in space. But as it is the purpose of the chapter to show that apprehension of a system of relations among sensations in respect of their qualitative differences is apprehension of terms related in space, it is not sufficient to meet the position with a blank denial. It will be necessary therefore not merely to protest that the order of our sensations in respect of their qualitative differences is not spatial order—for that will not carry conviction—but to show that it can have no correspondence with spatial order, and that therefore the two cannot be identified; for if the orders are discrepant, it must then be admitted that they are not the same. But if the order which the chapter explains that we come to apprehend is not a spatial order, and if it is not shown how it can come to signify to us a spatial order, then the chapter throws no light on the genesis of our perception of space; and it would therefore be merely useless, if the confusions it generates did not make it mischievous.

We may now proceed to the exposition. It opens with a statement of the nature of spatial order—*i.e.* of the thing, our coming to perceive which is to be explained. Spatial order is said to be constituted by the systematic connexion of re-

lations of four kinds—*viz.*, position, distance, direction, and betweenness. But these four relations, we are told, are found connecting terms of very various kinds¹: we find them in the number series, among tones of various pitch, in a temporal succession, in the successive stages of a classification, and in the consecutive steps of a train of reasoning. I will not ask how far in all these cases the relations in question really subsist between the terms apprehended, and not merely (as *e.g.* in a classification) between our apprehensions of them, *i.e.*, between terms of a temporal succession. It is at any rate allowed that the relations 'have distinctive peculiarities determined by the respective kinds of material in which they are exemplified'. What then is this material in the case of spatial relations? *i.e.*, what is it that is related spatially? It is something called *extensity*, 'a character especially belonging to tactual and visual presentations, though it is shared also by organic, and possibly in a rudimentary way by other sensations'. It cannot however be really meant that extensities are related in space, if extensity is a character belonging to our presentations; it must be the presentations themselves that are so related in respect of their extensity; for otherwise, space relations will subsist between qualities, and not between the subjects possessing those qualities. The material then or terms entering into space relations are sensations or presentations, in respect of a character called extensity; a doctrine which, as I have said, I believe to be plainly false, but which we have to examine. For an example of what the word extensity signifies we are referred to Prof. Ward, who first introduced it in his article in the *Encyclopædia Britannica*, though noting there that Dr. Bain had already referred to this quality of our sensations, under the name of 'massiveness'. Everybody knows what it is "who knows the difference between the ache of a big bruise and the ache of a little one" or "between total and partial immersion in a bath". 'The experiences of being totally and partially immersed in a bath differ,' Prof. Stout proceeds, 'as regards the *quantity* of the resulting sensation. But this difference is not merely one of intensity; it is also one of massiveness or voluminousness. In other words, it is a difference in extensity. The nature of extensity is best illustrated by experiences which differ from the fully developed perception of spatial extension only in the comparative absence of spatial order. Organic sensations, such as those of hunger, thirst,

¹ I know that the view which Prof. Stout here puts forward has high authority on its side.

repletion, fatigue, and repose after fatigue contain at the most very rudimentary internal distinctions of direction, distance, and position. But they are felt as more or less diffused.' Again, 'We can no more account for the extensity of visual and tactual sensations than for their intensity and quality. Extensity is a primary datum with which we must start in treating of the development of spatial perception. On the other hand, the cognition of spatial order becomes progressively more definite and articulate by processes which the psychologist can trace. Yet we do not pretend to take our point of departure at a stage in which the apprehension of anything which can be called spatial relation is entirely absent. The process is rather to be regarded as a gradual transition from relatively indistinct to relatively distinct perception. From the outset a certain relational character belongs to the perception of extensity. For extensity at least involves the continuous connexion of parts within a whole. But there is a wide interval between this relational character of extensity as it is initially apprehended and our developed apprehension of a systematic spatial order of definite positions, distances, and directions. Apart from other evidence, the study of the development of young children leaves no doubt on this point.'

It is abundantly clear, from these passages, that extensity is supposed to characterise our sensations. But it is not so clear what its relation to extension is supposed to be. The task of determining this is complicated by a recurrent confusion between apprehension, and what is apprehended. Experiences having extensity are said to differ in the comparative absence of spatial order not from spatial extension, but from the fully developed perception of spatial extension. The perception of extensity, as well as extensity itself, is said to have a relational character. And there is said to be a wide interval between the relational character of extensity as it is initially apprehended and our developed apprehension of a systematic spatial order of definite positions, distances, and directions. But the interval must either be between our initial apprehension of the relational character of extensity, and our developed apprehension of a systematic spatial order, or between the extensity, with its relational character, and the spatial order with its definite positions, distances, and directions. If the latter is meant, then apprehension of the one cannot explain apprehension of the other, and still less can perception of the relations subsisting among sensations in respect of extensity or anything like it constitute perception of space relations among things in space ; though the chapter proceeds to argue

that it does so. If however it is meant that there is a wide interval between an initial apprehension of the relational character of extensity and our developed apprehension of a systematic spatial order, then extensity and spatial order should be one and the same thing, which we apprehend at first confusedly and afterwards clearly, since apprehension of one thing cannot develop into apprehension of another. But in this case, since extensity characterises our sensations, extension must do the same; extensity and extension will be identical; and this I take to be the real teaching of the chapter, notwithstanding that it has already opposed things extended in space and independent of our experience to experiences characterised by extensity. Yet if extensity *is* different from extension, as would also seem to be implied by the pains taken to explain to us what the word indicates, it must for ever remain different; one can no more become the other than heat can become cold. Are we then to suppose that, though they are different, that which was extensitous (if the word may be permitted) becomes extended, as a body which was hot becomes cold? That is also impossible, if our sensations are extensitous, and things independent of them are extended.

Prof. Stout might however retort that I have in these remarks been taking advantage of some negligence of expression on his part; and that his meaning is made plain by what follows. I do not think this is the case. Having once assumed that sensations are the terms connected by spatial relations, however rudimentary, no careflessness of expression could save him from entanglement in paradox and contradiction. But we must follow his argument, and see to what conclusions the assumption leads.

The extensity of our presentations has already been said to be the material, by being exemplified in which the general relations of position, distance, direction and betweenness constitute spatial order. This must mean, as was pointed out, that these relations subsist between presentations that have extensity: yet no one would allege that he was conscious, even rudimentarily, of any distance or direction between the ache of a big bruise and the ache of a little one, or between those organic sensations of 'hunger, thirst, repletion, fatigue, and repose after fatigue' which are offered as examples of rudimentary extensity. Hence Prof. Stout says that these organic sensations 'contain at the most very rudimentary *internal*¹ distinctions of direction, distance, and position'; and it becomes clear that extensity is not really a character

¹ Italics mine.

of the terms between which, in the case of spatial order, these 'internal' relations lie, as pitch is in the case of the notes on the musical scale, but a character belonging to a complex or aggregate in virtue of such internal relations between its elements. Extensity 'at least involves the continuous connexion of parts within a whole'; and the parts are themselves differentiated not by extensity but by what are called their 'local signs'. It is these local signs really whose peculiarities give to the relations in question the special character that belongs to them in a spatial order; the material of spatial order is not sensations having extensity, but sensations having local signs: so that it is said that 'the perception of spatial order is primarily the perception of position, distance, and direction within a system of local signs'.

What local signs are we will consider immediately; they, too, as we shall find, are qualities of sensations; and it must be as false to say that space relations can subsist between sensations characterised by local signs, as between sensations characterised by extensity. At present we have to notice that it is local signature, and not extensity, that characterises the sensations whose relations to each other are supposed to constitute, and thereby to lead to the apprehension of, spatial order. But this transition from sensations related in virtue of their extensity to sensations related in virtue of their local signature deserves notice.

Considering that perhaps the most remarkable feature of space, as we come to know it, is its continuity, by which the parts into which any space is divided, and between which therefore space-relations hold, are sub-divisible into parts homogeneous with themselves, it is surprising that with the sensations out of which our perception of space is developed it should be so much otherwise; that sensations characterised by extensities, that have space-relations between them, should be resolvable into sensations characterised by local signs that have space relations between them, although extensity and 'local signature' are not homogeneous. It is also surprising that we should be told that 'we can no more account psychologically for the extensity of visual and tactual sensations than for their intensity and quality,' when the chapter immediately proceeds to explain extensity, *i.e.* presumably the extensitous, as a continuous whole of parts having local signs connected by definite relations.

What however is a local sign?¹ It is 'that which differ-

¹ This doctrine of course also has authority, beginning with Lotze; from whose account of a local sign Prof. Ward however expresses some dissent, *loc. cit.*

entiate sensations due to the stimulation of one part of the sensitive surface of the skin or retina from those due to the stimulation of other locally distinct parts'. Now we can observe some differences of this kind in our sensations. Every one knows how differently it feels to be cut over the head with a stick and over the sole of the foot; and by that difference a man could tell where he was struck, though his eyes were shut. These differences of quality in the sensations are called local signs because they can indicate the parts of the body, by contact with which the sensations originate. But how has a man *learned* to connect a qualitative difference in the touch-sensations with a difference of position in the part struck? If he is aware by sight of his body as a thing in space with distinguishable parts in definite relations, this question may be answered; he can see the stick in contact with his foot, or coming down upon his head, and connects the ensuing sensation with the blow accordingly; and as the difference that there is in the feeling of the blow becomes a sign to him of where it fell. This answer is intelligible, though for three reasons not altogether satisfactory; first, the alleged differences of local signature are sometimes undiscoverable, even when we are aware of the difference signified—*e.g.* there is no such difference between the feel of a blow on the sole of the right and of the left foot as there is between the feel of a blow on either foot and on the head: one can hardly say more than that one is immediately aware which foot is struck without discriminating any 'local signature'; secondly, the theory throws a considerable burden on the memory, for a man must learn to interpret as many signs as there are parts of the body, contact with which can be distinguished: and the signs must each be recognised under all the differences of sensation that can originate in different kinds of contact with each such part of the body; thirdly, the significance of the signs is learnt by blind men, who have no such independent means of apprehending the place signified as we enjoy by sight.

But the first two objections may not appear conclusive; the local signs, we may be told, exist, though they are difficult to discriminate; and the burden thrown on the memory is not beyond its powers; and the third objection will break down, if, as the theory we are examining supposes (though the supposition is really meaningless), spatial order is *constituted* by the relations between these local signatures. There are, however, local signs to visual sensations also, and in order to understand the position, we must consider these; for as applied to vision, the doctrine of local signs presents

the same difficulty in the case of all other men, as in regard to touch-sensations it presents in the case of men born blind—*i.e.*, that there is no means of apprehending the thing signified, so as to learn the interpretation of the sign. Hence the consideration of the third of the above objections is doubly important.

Now at the first blush one might question the existence of local signs in vision, for no one could say that he has ever noticed that it felt different to see the same colour to the right of the centre of the field of vision, and at an equal distance to the left. He might conceivably say that it feels different to see blue and red, treating the difference of the colour as a difference of sensation; just as it feels different to be touched with a cold poker on the sole of the foot and with a hot one; but what difference could be detected in the red colour-sensation (to allow such language for a moment) corresponding to the side of the retina stimulated, as he detects a difference in the feel of a hot poker on the sole of the foot and on the crown of the head?¹ Still, if the theory of local signs were otherwise able, and were the only theory able, to explain how we come to be aware of the relative positions of objects, we might perhaps be content to suppose that the quality of local signature is really present and operative in our sensations, though too evasive to be separately noticeable. If, however, local signs will not do the work required of them, it is not so necessary to suppose their existence when unobservable. That they will not do the work required of them might seem to follow from the fact that *ex hypothesi* we observe only them, and not what they signify: whereas in other cases the use of signs arises from the fact, that being independently aware of the sign and of the thing signified, and learning to associate the two, we are then led by the sign to think of the thing signified, *e.g.*, by a word, to think of what it stands for. In the present case, however, the systematic interconnexion of the signs is, as aforesaid, held somehow to constitute the thing they signify; and it is this part of the theory which we must now examine. It is, indeed, absurd to call these qualities of sensation signs, if

¹ Further, if there were such qualitative differences of visual sensation, severally constant for every position on the retina stimulated, through all changes of colour on that position, it is hard to see what system there could be in these differences corresponding to the system of positions. Lotze's physiological hypothesis works only for the series of points on any one radius, and will not apply to a series of points on any arc. But in view of the more general criticisms below in regard to the order of the terms of a local sign series, the development of this difficulty is here superfluous.

the sensations they qualify do not signify but actually are the terms related in space. For every sign is a sign of something else; and the use of the expression 'local sign' is to be condemned on Prof. Stout's own theory, as implying that what is spatially related is something different from what he maintains it to be; though this surreptitious implication of what we all know, and he at the beginning of the chapter acknowledged, to be the fact, helps to conceal the falsehood of his theory.

We must understand quite clearly that sensations having local signs do not themselves differ spatially. 'We can distinguish a patch of white in the left margin of the field of view from an otherwise similar patch of white in the right margin. The distinction of left and right is acquired. But it presupposes an original difference in the visual experiences directly connected with the local distinctness of the parts of the retina stimulated by the light from the two white objects.' The colour-sensations then do not differ, in respect of their local signature, as left and right, nor by the same reasoning as up and down, or back and front; they differ qualitatively; and 'the perception of spatial order is primarily the perception of position, distance, and direction within a system of local signs'. How do we learn the ways in which the various distinguishable signs in the system are systematically connected by these relations of position, distance and direction? If it can be shown that the alleged process of learning this could only reveal that these relations among sensations having local signature in no way correspond to the relations among objects in space, the theory that we are examining will have been refuted. For we could not be aware of the discrepancy without being aware both of the order among local signs, and of the spatial order; the latter then cannot be constituted by the relations subsisting among the terms of the former.

'The experiences,' we are told, 'which most contribute to this result (*i.e.*, to learning how local signs are connected in the local sign system) are those in which a sensation continuously changes its local sign,' as happens for example 'when a fly crawls across the face, or passes through the field of view'. Let us take the former case; a sensation which is described by Prof. Stout as one of clammy contact, but which of course is only appreciable to the mind whose progress we are considering as a sensation with a peculiar quality of clamminess, for to recognise contact is to have performed already the task that is to be accounted for—this sensation, recognisable throughout by its quality of clamminess, changes in re-

spect of another quality called local signature: as a note, recognisable throughout as an organ-note, might change in pitch. 'Learning to perceive spatial relations primarily consists in learning the order in which the local sign system is traversed by sensations which continuously change their local signature.'

Let us look closely at the statement just quoted. It will, I think, be found, if we bear in mind the qualitative nature of local signs, to come to this—that learning to perceive space relations *is* learning to perceive a system of relations among local signs which does not correspond with the relations of points in space. Prof. Stout is prepared to swallow half this result; he does hold that learning to perceive space relation is learning to perceive a system of relations among local signs; but if this system does not correspond with the other, we may hope he will yet reject the result he has swallowed.

Sensations might be said to change their local signature continuously either because this quality in them does not remain the same for any appreciable duration of time, or because the change proceeds throughout in one direction, from each term to the next term. Thus, in the first sense the sound produced on an organ might be said continuously to change its pitch, if the player, though not playing the notes in their order on the key-board, moved his hand as fast as he could from one to another without 'holding' any at all; in the second sense, if he went up or down the whole scale, not passing any notes. The second sense is here meant; for 'in such cases the different local signatures are acquired by the sensation in a definite serial order. As a fly creeps from the bridge of the nose to the tip, it must pass necessarily over intermediate parts of the sensitive surface. Hence, there is a determinate order in which the sensation of clammy contact changes its local sign. . . . Learning to perceive spatial relations primarily consists in learning the order in which the local sign system is traversed by sensations which continuously change their local signature. With reference to the sensations themselves, this order is one of time, it is an order of motion. With reference to the fixed and constant local sign system, it is a spatial order of positions, distances, and directions.' This must mean that whereas the order in which these sensations stand, if arranged according to their differences of quality or local sign, is not in all cases that in which they are successively felt, in this particular case, where the sensations are produced by a continuous movement, the two orders do coincide, *i.e.*, the sensations are

excited in the order of their qualitative differences, and therefore such cases are of especial service in teaching us the order of the signs in respect of their quality.

We might ask again, by what right is this called a spatial order? For it must be an order holding between sensations in respect of their local signs, since these are the terms in it, and not between what these signify. But we remember that it is held that what they signify is just the system into which they enter as terms; it remains therefore to show that this system is incongruent with a spatial system. For a line of direction among sensations in respect of their local signs, *i.e.* in respect of a certain quality, must be something comparable with the direction among notes sounded continuously upon the scale. Suppose the fly then to crawl continuously from a point A on the right cheek connected with a sensation of local sign α to another point B on the left connected with a sensation of local sign β . It may follow innumerable routes between these points, and in each case the local sign system is said to be traversed by a sensation which continuously changes its local signature. But are we to say that in each case the terms in the series of sensations from α to β have a definite direction enabling us to regard them as a continuous series, like the direction in the notes upon a scale, or in any other series of terms thus qualitatively differing? The thing is impossible; for the terms next to α are different in each series, and the terms next to them are different again, and they cannot all converge upon β without a change in their qualitative direction, any more than different series of notes with the same initial member can converge upon the same final note without a change in their direction of pitch during the series. It might be said that if the motion is in a straight line, the local sign then at least will change in one unchanged direction; but as there is no route which lies in a straight line, though a route passing over the bridge of the nose may lie in one plane, there is none which can be expected on this ground to afford a series of sensations changing continuously in any one direction. But again, if there were one such series, let us suppose for the shortest route from A to B or for the route in one plane, then there ought to be any number of them; for though there is perhaps only one shortest route from A to B, and certainly only one route in one plane, there are any number of points to each of which a shortest route from A may be possible, and to each of which there is a route in one plane. Qualitative series therefore must be indefinitely numerous, which, starting from a sensation of local sign α , proceed to different terminals, yet with a constancy in the

direction of the change in quality such as we recognise in going up or down the scale. Now it is surely impossible to conceive a set of terms differing qualitatively, which can be arranged, in respect of their qualitative differences, in series that exhibit a continuous direction, like what is found in the order of the scale, so that all the following requirements may be satisfied ; yet nothing less will be necessary, if the order of the terms in the local sign system is not to be discrepant with that of terms in a spatial order.

(1) Starting from every one of the qualitatively differing terms, we must be able to take indefinitely numerous series that proceed each with a continuous variation of quality in one direction (like that of the musical scale) to a different terminal.

(2) Between any two of the terms we must be able to arrange indefinitely numerous series whose terms present an order with some sort of continuity.

(3) These series between any two terms must be themselves arrangeable, so that one of them, recognised as the most direct (*viz.* that whose members successively occur when *e.g.* a fly crawls between two points A and B on the face by the straightest route or the route in one plane), shall be a sort of standard, while of the rest, some are divisible into two groups, all the series in one of which have one quality, and all the series in the other another quality, corresponding to the differences of right and left in the groups of routes that lie on either side of the direct route A B ; others fall into a group, the series in which are composed of terms from series in each of the two groups just mentioned, and can be arranged on qualitative grounds in a way corresponding to the arrangement of the routes that intersect A B. Further, in either group whose series as a whole exhibit qualitative differences corresponding to the difference of right and left, the series must be further arrangeable, some according to a continuous order of qualitative differences corresponding to the order in which routes on either side of A B that do not intersect each other lie further from it ; others according to a more intricate order of qualitative differences corresponding to the relations of such routes on either side of A B as do intersect each other : and those of the latter group must exhibit a systematic relation of qualitative difference to those of the former, so far as the non-intersecting routes are crossed by the intersecting ones. Nor will it help to say that the same terms—the same sensations differing in local sign—may enter into several series, unless it can be shown that in every series into which they enter they are related to its other

terms on a system of continuous qualitative differences congruent with that of positions on a line.

(4) Lastly, the members of every group of series proceeding from the same initial term to different terminals must be capable of arrangements in respect of qualitative differences just as complex as those required among all the series that lie between two given terms. On the basis of these qualitative differences some must be arrangeable in an order corresponding to that of radii round a centre; though it is impossible to conceive how a series of qualitative differences can be so constituted that, starting anywhere and proceeding in either of two qualitatively differentiated directions, we can finally return to the very quality from which we started: this nevertheless is necessary, if the arrangement of series of sensations differentiated by local signature is to correspond to that of radii round a centre. Others again must be arrangeable in a way corresponding to that of lines, from a centre to different extremities, that intersect each other. But it is unnecessary to pursue the implications of the theory into further detail.

Nothing less than all this however would be needed, in order that the local sign system should exhibit relations of position, distance and direction between the sensations which are its terms corresponding to those which points in a spatial system exhibit; but if the relations in the local sign system are not so correspondent, they can neither indicate nor constitute the spatial order. In point of fact, if the terms of the local sign system did differ in a way rendering them capable of definite serial arrangement (as notes do, and odours do not), we must suppose that as a fly crawled over the face by varying routes between two points A and B, it would excite clammy sensations in an order sometimes more and sometimes less nearly that of the serial difference of their local signs; and our task would be to pick out the terms and rearrange them in thought according to the direction of their qualitative differences, without regard to the order in which the fly on its continuous path excited them: as a musical ear, hearing notes succeeding one another in many different airs, might pick them out and arrange them in thought according to an order of pitch. But it would not be specially assisted in this by the order of their succession in those airs; nor in the other case should we be assisted by the order due to the various continuous paths of the fly; from the continuity of the path of the fly it would follow that the temporal succession of tactual sensations differing in local signature but otherwise qualitatively identical would be unbroken; but what we should learn would not be

an order of quality in the tactual sensations that corresponded to the temporal order of their succession, but was spatial instead of temporal. On the contrary, it would be an order of quality quite discrepant with that in which they succeeded one another in time; and since, *ex hypothesi*, they would succeed one another in time in an order determined by the succession of points upon a line in space, therefore, as was said above, we should be learning a system of relations among the local signs which did not correspond to that of the points in space. Yet we are told that 'the perception of spatial order is primarily the perception of position, distance and direction within a system of local signs'.

It seems almost superfluous after this to consider any further details of a theory which connects our appreciation of spatial order with learning the relations among the members of a system of qualitatively differing tactual or visual sensations. We read indeed that 'the experiences of active sight play an altogether predominant part in the actual development of spatial perception'. By 'the experiences of active sight' seems to be meant those series of visual sensations the order of whose occurrence is due to movements of the head or eyes. But when we have found that 'the actual development of spatial perception' is really no more than the discovery of an order of relation, among sensations differing qualitatively, that has about it nothing spatial, nor corresponding with spatial order, it becomes irrelevant to determine whether—what seems unlikely—the discovery of this order would be specially facilitated by series of visual sensations whose order depended on movements of the head or eye. Of course if, when I move head or eye, I am conscious not only of changes in muscular sensation and in so-called visual sensation, but of a change in the direction in which I look into space, that will help me to determine more accurately the relative positions in space of the objects I am looking at. But that *presupposes* in me a consciousness of space relations between things independent of my consciousness, such as the psychological theory we are examining professes to *account for* from the apprehension of those qualitative differences in sensation whose existence, as we have seen, is largely hypothetical, and which, if they exist, will never yield it. And in particular we must point out that the so-called kinæsthetic series, whereto great importance is attached,—i.e. series of muscle-joint-tendon sensations connected with the changing position of a limb—will not help to the solution of the problem. We are told that 'the kinæsthetic series which accompanies the transition from one'

posture of a limb to another comes by association immediately to convey to the mind 'the perception of a motion in space from one position to another, such as might have been observed by the eye'. Now the change of sensation in the kinæsthetic series is of course itself qualitative only; but that would not prevent our associating it with a change in the position of a limb in space, if we could be aware of the latter. It has however been shown that without the aid of the kinæsthetic series we could not, from mere experience of visual sensations that differ qualitatively, come to be aware of anything of the kind; and the association of kinæsthetic series with series of visual sensations can clearly no more help us to that, than the association of a series of written words whose meaning we do not understand with a series of spoken words equally not understood can help us to understand the meaning of the latter. So far then as the first of the cognitions is concerned, whose concurrent development was to be accounted for, *viz.* 'the cognition of spatial relations,' we must conclude that this psychological theory has failed completely. It remains to be seen whether those arguments in the chapter are any sounder, by which it attempts to explain the development of our cognition of external, or independent, reality.

II.—THE CARDINAL PRINCIPLE OF IDEALISM.

BY RALPH BARTON PERRY.

IDEALISM, in the sense in which that term is used in the present article, is a distinctively modern movement. It consists essentially in the assertion of the priority of spirit over matter. But it does not define spirit, and then proceed to show that everything may be explained by it, as materialists have undertaken to do with matter, force or energy. For its method is as peculiar as its doctrine. At this stage of the analysis it is impossible to say more than that its method is "epistemological," and that it is therefore best formulated in terms of those distinctions which arise when one reflects on *knowledge*. For idealism spirit is that which is denoted by the phrase "I know" or any more specific formula that is regarded as the equivalent of this, such as "I perceive," "I think," "I judge," or "I acknowledge"; and idealism asserts the priority of such a proposition as "I know *a*," over such propositions as "*a* exists," or "*a* is *b*"—asserts, in short, that *to be is to be known or known*.

Modern idealism, thus defined, may be clearly distinguished from ancient idealism or Platonism. Platonism is on the one hand the culmination of a tendency which manifested itself among all the pre-Socratics, a tendency of which the central motive was the assertion of the priority of systematic or well-grounded knowledge over opinion. Thus Parmenides distinguished between "the unshaken heart of persuasive truth" and "the opinions of mortals in which is no true belief at all". Heraclitus remarked that the truth differed from opinion in being one and universal. "Though wisdom is common, yet the many live as if they had a wisdom of their own"; just as "the waking have one and the same world, but the sleeping turn aside each into a world of his own".¹ And with Plato, too, philosophy is primarily a means of escape from the relativity and conflict of opinion. The philosopher is "he who has magnificence of mind and is the

¹ Burnet's *Early Greek Philosophy*, pp. 184, 140.

spectator of all time and existence"; who "will not rest in the multiplicity of individuals which is an appearance only, but will go on—the keen edge will not be blunted, neither the force of his desire abate until he have attained the knowledge of the true nature of every essence by a kindred power in the soul". True knowledge is marked by the kind of object which it discovers or seeks, "the absolute, eternal and immutable," or "the things themselves," which, like the absolute square and the absolute diameter of mathematics, "can only be seen with the eye of the mind". And this insistence on the objectivity and permanence of truth, is united with the speculative interest in completeness of truth. The knowledge of the philosopher will be not only unqualified in point of certainty, but also unlimited in point of sufficiency and generality. Thus Plato represents also that philosophical tendency which has come latterly to be termed "absolutism".

It is true that in this summary of Plato no provision has yet been made for the moral element. Plato's absolute is defined as *the good*, and in the order of the sciences ethics is elevated even above mathematics. "The excellence or beauty or truth of every structure, animate or inanimate, and of every action of man, is relative to the use for which nature or the artist has intended them."¹ In other words, for Plato the teleological categories are fundamental. And this motive doubtless tended to contradict his absolutism, and to create a certain affinity between him and those very sophists who were his dearest foes. But the fact remains that so far as method was concerned ancient idealism was opposed, not to physical or mathematical science, but to the laxity of common sense. This is proved by Plato's high esteem for mathematics as a means of intellectual discipline, through which the philosopher might be emancipated from personal bias and the evanescent chaos of immediate experience, and brought to apprehend definite conceptions and fixed principles.

This rationalistic motive, critical, scientific and speculative, which dominated constructive philosophy among the ancients, found its most complete expression many centuries later in Spinoza. But in Spinoza it is so far freed from all connexion with teleology as to provoke a wholly different alignment of forces. In the famous Appendix to Part I. of the *Ethics* it is argued that an explanation of nature in terms of final causes is necessarily anthropomorphic. Man is virtually attempting to account for the absolute origin of things in terms of that

¹ Plato's *Republic*, Jowett's translation, 486, 490, 601.

value which they have for *him*. He assigns as reasons for the being of things those reasons which would have moved him to create them. And where he can find no such reason he simply imputes one to God's inscrutable wisdom. "Such a doctrine," says Spinoza, "might well have sufficed to conceal the truth from the human race for all eternity, if mathematics had not furnished another standard of verity in considering solely the essence and properties of figures without regard to their final causes."¹ It will be observed that Spinoza prizes mathematics not only for its exactness, but also for its dispassionateness, for that very character that led Plato to subordinate it to ethics. The philosopher of Spinoza is not the guardian of the State, representing the good of the whole rather than the good of any part, or even the lover of the absolute good, but the witness of those inexorable necessities which make no allowance for human ideals.

Thus in the rationalism of Spinoza the teleological principle, derived through Plato and Aristotle from the humanism of the Socratic age, and reinforced by the Scriptural account of the creation and of God's dealings with man, is replaced by the principle of *mechanism*. Science has now become identified in men's minds with the quantitative laws of motion. The Copernican revolution had further emphasised the meaning of the mechanical theory, and brought out its essentially de-anthropomorphic character, by removing the Earth from the centre of the stellar system, and reducing man's historical career to a peripheral and incidental feature of the cosmos. Man was now of small account in that world which he had once been led to believe was contrived for his especial comfort and salvation. If the religious attitude was to be maintained with such a philosophical background, only two possibilities seemed to remain. Either, as in the case of Spinoza himself, the religious consciousness must be reduced to the reason's approval of truth; or religion as a whole must be conceived with Hobbes as a secular institution, used to pacify disorderly men, and sharing the pettiness which under the mechanical philosophy attaches to all human affairs. But religion of the former type must be as rare as the spirit of renunciation and the capacity for intellectual mysticism; while religion of the latter type is a mere convention imposed by cynical enlightenment upon servile ignorance. Hence, not without reason, Spinoza and Hobbes were singled out and anathematised as the great prophets of irreligion.

¹ Elwes's translation, vol. ii., p. 77.

We are now prepared to understand the service which modern idealism offered to religious belief. True religion required to be defended, not, as in the days of Socrates and Plato, against the prejudices or blindness of unthinking men, *but against the claim of science to have alienated the world from man*. Faith and revelation had been left unsupported in their demand that the world should be subordinated to spirit. That nature which religion had conceived to be the handiwork of God, or the stage-setting of the moral drama, or at most merely the principle of negation in the spiritual life, threatened to swallow up both man and God. A new philosophy must redeem nature from mechanism and restore its spiritual centre. It must not be supposed that this was the conscious aim of the idealists and their forerunners, or that the tendency was not in large part due to purely theoretical motives. But it is this that accounts for the great human importance of idealism, for its stimulating power and widely diffused influence. Kant compared his theory of knowledge with the Copernican revolution in astronomy. He proposed to assume that "the objects must conform to our mode of cognition" rather than that "our knowledge must conform to the objects," just as Copernicus, "not being able to get on in the explanation of the movements of the heavenly bodies, as long as he assumed that all the stars turned round the spectator, tried, whether he could not succeed better, by assuming the spectator to be turning round, and the stars to be at rest".¹ But Kant did not point out the fact, nor has its importance ever been sufficiently recognised, that the Kantian revolution was virtually a *counter-revolution*, through which the spectator again became the centre of the system. Nor did this counter-revolution either begin or end with Kant. It is a movement of epochal proportions, supported by a wide diversity of thinkers, and dominating philosophy from the time of Berkeley down to the present day. Its central motive is the restoration of the supremacy of spirit. Its distinguishing characteristic as a philosophy of religion, is its subordination of nature to God by means of a preliminary reduction of nature to knowledge. God is declared to possess the world as man possesses his lesser microcosmic experience. That very mechanical cosmos which had served to belittle man, is now made to glorify him through being conceived as the fruit of intelligence. God, the discarded hypothesis of science, is enthroned again as the master-knower of whom science itself is only the imperfect instrument. Thus, while the burden of idealism is a religious

¹ *Critique of Pure Reason*, Max Müller's translation, p. 693.

interpretation of nature, its cardinal principle is a theory of knowledge. For the purposes of technical philosophy it consists in a single proposition, to the effect that knowledge is an originating or creative process. Its claims can be substantiated only provided it is true that *to know is to generate the reality known*. It must be proved that the being and nature of things are conditioned by their being known. In what follows the attempt will be made, amidst the confusing motives which attend the history of idealism, to keep this cardinal principle constantly in view, and to sift and test the evidence with which it has been supported. And first let us consider the manner in which Descartes and Locke, the forerunners of idealism, prepared the ground for Berkeley, its founder.

The strategy of idealism depends on the adoption of a certain initial standpoint. The world must be viewed under the form of knowledge. Although the precise significance of the fact cannot yet be made clear, it is a fact that everything that can be mentioned, such as the sun, gold, or Napoleon I., can be classed as an element of knowledge, or *idea*. This generalisation does, it is true, require a qualification, the importance of which will shortly appear. Elements of knowledge, or ideas, imply a knower, which is not itself an idea, but which confers the character of idea on what it possesses. With this amendment, we may say that it is possible to regard the world of all mentionable things, even the Copernican plurality of worlds with their inflexible mechanical necessities, as comprehended under the knower¹ and his ideas.

Descartes adopted this standpoint only provisionally, but the difficulty he met in extricating himself from it demonstrated its dialectical possibilities. When you record the knower and his ideas, or all knowers and their ideas, what is there left to account for? Descartes, of course, thought that there were at least two things still to account for, namely, God and nature. If asked whether these too were not ideas, he would have replied, not *merely* ideas—for they exist also in their own right.² Nevertheless, from the Cartesian standpoint God and nature are *primarily* ideas, that being the most certain thing about them. That there are such ideas is indubitable; that they are more than ideas remains somehow to be proved from what is known of them

¹ It would be untimely to inquire, *what knower?* This is indeed a crucial question, but it must be reserved. For the present let the term signify *the kind of thing* called knower.

² They exist not only "objectively," i.e., as content, but also "formally" or actually.

as ideas. The existence of God must be argued from the idea of God, and the existence of nature from the idea of nature.

The characteristic difference between Descartes and Locke lies in the fact that the former seeks to establish existence (as something other than the knower and his ideas) first in the case of God, while the latter seeks to establish it first in the case of nature. Let us consider the procedure of Descartes. He believes that he escapes from the circle of the knower and his ideas, through the peculiar character of the idea of God. He here relies on the traditional "ontological" proof, according to which the idea of an infinite and perfect being implies the existence of its own object. The idea of God was supposed to possess so high a degree of meaning or objectivity as to require a being of like degree to account for it.¹ Once the existence of God was established, and the circle broken, Descartes thought it safe to infer that other "clear and distinct" ideas, such as the ideas of nature, were also representative of existence.

Let us turn to the case of Locke. Nominally, he follows Descartes, and proves God before he proves nature. But logically he follows just the reverse order. Albeit with a certain becoming hesitation, he sets aside the ontological proof of God, and prefers those proofs that carried more weight with Englishmen and deists of the eighteenth century.² God's existence is proved from the necessity of an eternal and intelligent first cause. The problem of existence must, then, be first solved with reference to nature. And here Locke's distrust of intellectualism leads him to define a new criterion. The ideas, he asserted, that are most significant of existence, are not those that are most clear and distinct, or most full of meaning, but those which are directly imprinted on the mind by an external cause. Existence is to be inferred, not from the import of ideas, but from the circumstances of their origin. It is not a question of proving the trustworthiness or representative validity of illuminating ideas, but of proving the extra-mental source of vivid

¹ Descartes did, it is true, modify the ontological proof; but the fact is negligible for our present purposes.

² "How far the idea of a most perfect being, which a man may frame in his mind, does or does not prove the existence of a God, I will not here examine. . . . But yet, I think, this I may say, that it is an ill way of establishing this truth, and silencing atheists, to lay the whole stress of so important a point as this upon that sole foundation. . . . For I judge it as certain and clear a truth as can anywhere be delivered, that the invisible things of God are seen from the creation of the world."—Locke's *Essay, Concerning Human Understanding*, bk. iv., ch. x., § 7.

and forceful ideas that are beyond the mind's control. The conspicuous and evident case of such ideas, is sensation.¹

Owing to this difference of procedure between Descartes and Locke there came to prevail two notions of the relation between existing nature and the idea of nature. According to the Cartesian procedure existent nature is essentially that which *corresponds* to the idea of nature, that in which the idea of nature is fulfilled. According to the empirical procedure of Locke, on the other hand, existent nature is essentially the *cause* of the idea of nature. In the first case existent nature must resemble the idea, and the real difficulty is to distinguish it therefrom. In the second case existent nature need not resemble the idea, and the real difficulty is to give it any real character or meaning at all. We are now prepared to understand the form which idealism first assumed, in the writings of Berkeley.

Berkeley, like Descartes and Locke, begins with the assumption of the knower and his ideas, and feels the difficulty of establishing the existence of anything else. But Berkeley parts company with his predecessors, and with common sense, in concluding that the difficulty is insuperable, and the attempt to overcome it gratuitous. He asserts, in short, that all existence may adequately be comprehended under the knower and his ideas; and in this assertion modern idealism first sees the light.² With Berkeley, as with Locke, the question primarily concerns nature. Is there an existent nature over and above the idea of nature? The answer may be formulated as a dilemma. If, as Descartes would have it, existent nature agrees with the ideas of nature, then what is the difference; but if, as Locke suggests, existent nature does not agree with the ideas of nature, then what is it, and how can it be proved? Furthermore, why must a thing be other than idea in order to exist? In the case of nature, Berkeley asserts, it would appear that *esse est percipi*.

Berkeley's argument is too well known to require detailed restatement, but it is highly important to discover just what it proves. That Berkeley believed that he had established idealism is beyond question; his whole religious philosophy depended on a reduction of nature to spirit. But it is certainly true of much of Berkeley's argument, that while it serves to

¹ Cf., *op. cit.*, bk. iv., ch. xi., § 1. "No particular man can know the existence of any other being, but only when, by actually operating upon him, it makes itself perceived by him."

² Berkeley's *Principles of Human Knowledge* was published in 1710. Malebranche, Norris and Collier should be credited with original contributions to this doctrine, but Berkeley gave it its prominence and classic form.

refute Descartes and Locke, it nevertheless does not establish idealism. There is a halting-place short of that theory, where the issue is altered, and where new alternatives arise and diverge. Consistently with our purpose of disentangling the cardinal principle of idealism, and of isolating the evidence offered in support of it, we must therefore separate Berkeley the idealist from another Berkeley with whom realists as well as idealists are to-day in substantial agreement.

The greater part of Berkeley's argument in the well-known *Dialogue between Hylas and Philonous* is a disproof of the traditional dualism between idea and existence. This position, which Berkeley justly attributes to Descartes and Locke, is thus summarised by Hylas: "To speak the truth, Philonous, I think there are two kinds of objects:—the one perceived immediately, which are likewise called *ideas*; the other are real things or external objects, perceived by the mediation of ideas, which are their images and representations. Now, I own ideas do not exist without the mind; but the latter sort of objects do."¹ In attacking this position Berkeley first shows that whatever answers to the name of a natural object, such, for example, as "tulip," is perceived immediately, and hence is idea. Its colour is seen, its shape and size both seen and felt, its odour smelt, and so with every quality or element that is attributed to it. What, then, is the "real" or "external" tulip "without the mind"? And what ground is there for affirming it? There are, Berkeley believes, only two conceivable alternatives, both of which are untenable. In the first place, one may contend, after the manner of Descartes, that an idea, if it be clear and distinct, is a trustworthy likeness of something that exists "without the mind". But how can a thing that is in its substance or essence non-mental be like a thing that is essentially mental? Surely a copy which must necessarily miss the essence of the thing copied is no copy at all. Does it mean anything to speak of absolutely invisible colour, or inaudible sound? In general, does it mean anything to speak of an object that is like ideas in all particular qualities and attributes, and yet possesses a fundamentally and radically different nature? By means of these and similar considerations, Berkeley shows that a non-mental world which corresponds with the mental world but never coincides with it, is both arbitrary and meaningless. And is it not also gratuitous? This raises the question in the form in which it presents itself to Locke.

¹ Fraser's edition, vol. i., p. 414.

For, in the second place, it may be contended that certain ideas, sensations, namely, have an extra-mental cause. They are forced upon the mind, and are not of its own making. In this Berkeley is empiricist enough to agree with Locke. But what *is* the cause? If it be conceived as matter, then it reduces itself to an unknown substratum, because everything that is known of matter is, as we have seen, contained within ideas. And why should a cause, to which none of the properties of matter can be attributed, be regarded as material at all? Since here it is not required that the extra-mental reality shall be like the ideas, but only that it shall be their cause, why should it not be conceived after the analogy of the only cause of ideas with which we are directly acquainted, namely will or spirit? In this case, matter or physical nature would simply coincide with perceptions caused by God. There would be no matter behind appearance, no duplication of known matter through the assumption of a likeness or prototype behind it, and no discrediting of knowledge through the assumption of an unknown and unknowable essence.

Now without doubt Berkeley meant to assert that whatever is content of ideas, such as matter in the above sense, is *necessarily* or *essentially* ideal; its *esse* is *percipi*. But this does not follow from the argument as thus far outlined. For it is entirely possible that the real tulip should be as Berkeley argues, identical element for element with the idea of tulip, and yet not require to be perceived in order to be. The principle involved is a very common one, and never disputed in its more familiar applications. Thus when a citizen of the United States becomes President, the citizen and President are identical. There is no "presidential" entity substituted for the citizen, no correspondence or representation. The simple fact is that a citizen, without forfeiting his citizenship, may assume the status of President. But no one would think of contending that therefore being President is a condition of citizenship, or that citizens are essentially presidential, or that there can be no citizens that are not presidents. Similarly, tulips may be known, and when known called "ideas of tulips". There is, as Berkeley justly contends, no substitution or representation, no duplication or mystification. The tulip simply assumes a certain status, definable by the special relationship *percipi*, and involving no forfeiture of its nature or identity. But this does not at all imply that whatever assumes the status of idea *must* be idea in order to be at all, or that there are no things that are not ideas. The confusion doubtless arose from a convention to the effect that mind and nature are different "substances,"

or different domains, lying wholly outside of one another, and therefore mutually exclusive in their content.¹ It would follow from such a supposition that whatever belongs to mind or to nature, belongs to it absolutely and irrevocably. But once this supposition is abandoned, there is nothing whatsoever to prevent a thing's belonging *both* to nature and to mind; in which case it is impossible to argue that because a thing belongs to mind it therefore owes its existence to the fact.

Now the doctrine which results from the rejection of the dualism between idea and existence, but which stops short of idealism, deserves independent recognition, and a name that shall distinguish it. It is accepted by contemporary thinkers of opposing schools and can therefore be eliminated from most present-day controversy. Among German writers it has been referred to as the "immanence" theory, because it asserts that known reality enters itself into mind. But this term possesses the very ambiguity we are seeking to avoid, since it is often taken to mean that reality *must* lie within mind, which, as we have just seen, is a very different matter. It has also been referred to as the "immediate" theory of knowledge, because it asserts that reality is known directly and not through the intervention or mediation of a second and purely mental thing. But this term will scarcely serve, owing to the fact that "immediate" is commonly held to mean sensuous, affective, or non-intellectual consciousness, and thus raises a wholly different and irrelevant issue. It would seem to be necessary, therefore, to obtain a new expression which shall distinguish the doctrine precisely. The phrase "epistemological monism" has the virtue of suggesting that the doctrine in question is essentially a doctrine about knowledge, and not about being or existence, and also of suggesting that the doctrine arose historically as a refutation of dualism. Epistemological monism means that when things are known, they are identical, element for element, with the idea, or content of the knowing state. According to this view, instead of there being a fundamental dual division of the world into ideas and things, there is only the class of things; ideas being the sub-class of those things that happen to be known. That which is commonly called the "object" of knowledge is, according to this view, either the idea, or the whole thing of which the idea is a part. Thus when one perceives the tulip, the idea of the tulip and the

¹ Descartes is mainly responsible for the prominence of this notion in modern philosophy; but it probably arose originally from the emphasis given to "the inner life" by introspective Christianity.

real tulip coincide element for element ; they are one in colour, shape, size, distance, etc. Or, if one so desires, one may reserve the name of "real tulip" for the whole of the tulip, as distinguished from whatever portion of it is actually embraced within the idea. But in this doctrine nothing whatsoever is asserted or implied of the tulip except as respects this particular question. Whether it be essential or accidental to the tulip that it should be perceived, and thus become an idea—whether all tulips are ideas, is a wholly different question which must be decided on different grounds. And it is an answer to this second question which constitutes the cardinal principle of idealism. We may now turn to that principle as it is formulated and defended in the philosophy of Berkeley.

Berkeley only infrequently isolates his idealistic argument, but the passages in which he does so are of the greatest historical importance. In the Dialogue to which we have already referred, we read :—

"That the colours are really in the tulip which I see is manifest. Neither can it be denied that this tulip may exist independent of your mind or mine ; but, *that any immediate objects of the senses—that is, any idea, or combination of ideas—should exist in an unthinking substance, or exterior to all minds, is in itself an evident contradiction.*"¹

Now we shall understand Berkeley's meaning if we can apprehend this "evident contradiction". "The tulip which I see" is idea ; and it belongs to the essential character of ideas that they should be in mind ; hence it is contradictory to assert that "the tulip which I see" is exterior to mind. If all redundancy and equivocation is eliminated this amounts to the assertion that a tulip *when seen, or defined as seen* is not a tulip unseen. But what Berkeley sought to establish was virtually the proposition that *the tulip which I see can never be unseen* ; and this does not follow. For it is not contradictory to assert that the tulip which I see to-day was unseen yesterday, or that the tulip which I see could have existed without my seeing it. Berkeley's error lies in his inferring that because the tulip is seen, therefore whatever is true of the tulip *qua* seen, is true of the tulip. It would be as reasonable to argue that because no President can be less than thirty-five years of age, and because George Washington was President, that therefore George Washington could not have been less than thirty-five years of age. He could not, it is true, have been younger than that *when* President, nor could Berkeley's tulip have been unseen *when seen*. But

¹ Fraser's edition, vol. i., p. 406. (The italics are mine.)

the tulip is not on that account under any necessity of being seen. It will be observed that this error reduces in the last analysis to the fallacy of *petitio principii*, and as such it is a persistent factor in idealism.¹ In order that things may be proved to be essentially spiritual, they are conceived at the outset under that form, as ideas, objects of knowledge, or experiences. It is not here denied that things do as a matter of fact exist under such forms; but only that to substitute these forms for the things themselves, is to beg the question. For the very question at issue is whether things exist essentially or only accidentally under these forms, and whether, therefore, such a substitution is or is not legitimate. The Columbia River was named for Columbus; but it does not follow that "the man the Columbia River was named for" may forthwith be substituted for "Columbus" in historical discourse, for the characterisation is not sufficiently significant or definitive of the object referred to. Similarly, Columbus is "the man I am now thinking of"; but to treat him as such in all subsequent discourse would be to assume that his being thought of by me is the most important thing about him, which is, of course, contrary to the facts. Idealism must prove that to classify things as ideas, objects of knowledge, or experiences, is the most fundamental disposition that can be made of them; therefore, to classify them thus at the outset, or to prefer this classification to the many other possible ones, is simply to assume the very thesis under discussion.

The argument assumes a different form in the following passage taken from the *Principles of Human Knowledge* :—

"But, say you, surely there is nothing easier than for me to imagine trees, for instance, in a park, or books existing in a closet, and nobody by to perceive them. I answer, you may so, there is no difficulty in it. But what is all this, I beseech you, more than framing in your mind certain ideas which you call *books* and *trees*, and at the same time omitting to frame the idea of any one that may perceive them? But do not you yourself perceive or think of them all the while? This therefore is nothing to the purpose: it only shows you

¹ I hope shortly to have an opportunity of illustrating this fallacy from the history of Kantian idealism. So far as I know, no idealistic writer is free from it. A single example will suffice here. "We must start, in other words, from the whole of experience as such. . . . Now we take experience as a whole when we look upon the subject-mind, in which alone experience exists, as the centre to which all forms of experience refer and round which they gather" (Baillie's *Idealistic Construction of Experience*, p. 105).

have the power of imagining, or forming ideas in your mind ; but it does not show that you can conceive it possible the objects of your thought may exist without the mind."¹

In other words, one cannot conceive things to exist apart from consciousness, because to conceive is *eo ipso* to bring within consciousness. It is to this argument that Berkeley appeals in the last resort, and it is so fundamental and crucial as to deserve to be regarded as the idealistic argument *par excellence*.²

The argument calls attention to a situation that undoubtedly exists, and that is probably the most important original discovery that philosophy has made. *No thinker to whom one may appeal is able to mention a thing that is not idea*, for the obvious and simple reason that *in mentioning it he makes it an idea*. What this situation proves is a question that has never been examined with sufficient care. So far, it means only that no thinker can eliminate himself from the context of his knowledge without ceasing to know. No one can report on the nature of things without being on hand himself. It follows that whatever thing he reports does as a matter of fact stand in relation to him, as his idea, object of knowledge, or experience. In order to avoid making inferences unawares, it is necessary to have a name for this situation just as it stands. It will be convenient to call it *the ego-centric predicament*.

But what does it prove, and how does it serve the purpose of idealism? It contains, evidently, the proposition that every mentioned thing is an idea. But this is virtually a redundant proposition to the effect that every mentioned thing is mentioned, or that every idea, object of knowledge, or experience, is an idea, object of knowledge, or experience. And a redundant proposition is no proposition at all. The assertion that an idea is an idea, conveys no knowledge even about ideas. But what the idealist requires is a proposition to the effect that *everything is an idea*, or that *only ideas exist*. And to derive this proposition directly from the redundancy just formulated, is simply to profit by the confusion of mind which commonly attends a redundancy.

It may be argued, however, that the ego-centric predicament is equivalent to an inductive proof of the proposition that all things are ideas. Every observed case of a thing is a case of a thing observed. Neglecting the redundancy,

¹ Fraser's edition, vol. i., p. 269.

² I have already formulated and criticised this argument in an article entitled "The Ego-centric Predicament," *Jour. of Phil., Psych., and Sc. Methods*, vol. vii., No. 1.

which is sufficient of itself to vitiate the assertion, we remark that the induction proceeds entirely by the method of agreement. The ego-centric predicament itself forbids the use of the method of difference. It is impossible to observe cases of unobserved things, even if there be any. In other words, there is a reason connected with the conditions of observation why only agreements should be observed. But where this is the case the method of agreement is worthless; and the use of it is a fallacy. Thus, I cannot conclude that English is the only intelligible form of speech simply because whomsoever I understand speaks English. On the contrary, my peculiar situation, as one acquainted only with a single language, is sufficient to discredit my results. And similarly, the peculiar circumstance that in observing I am compelled to supply the very element whose real ubiquity or necessity I am attempting to discover, must itself be discounted or corrected if I am to draw a true conclusion. In so far as my conclusion is due to the circumstance itself, it is fallacious.

A study of the later development of idealism will disclose the fact that the ego-centric predicament is mainly, if not entirely, relied on for the proof of the cardinal principle of idealism.¹ And the fallacies to which the use of this predica-

¹ As I hope later to return to this topic, I shall here refer only to two contemporary writers, to whom the application is obvious, and who are apparently satisfied with the argument as Berkeley left it.

"The truth is that Berkeley gave the *coup de grace* to all forms of materialism, when he proved, or led the way to the proof, that matter (so-called physical reality) is a compound of qualities, and that every quality turns out to be an elemental form of consciousness, or way of being conscious." "The material thing then, *as directly known*, is proved by appeal to the consciousness of every observer to be a fact within consciousness, not independent of it" (Calkins, *Persistent Problems of Philosophy*, pp. 400, 123).

"Find any piece of existence, take up anything that any one could possibly call a fact, . . . and then judge if it does not consist in sentient experience. . . . When the experiment is made strictly, *I can myself conceive* of nothing else than the experienced. Anything, in no sense felt or perceived, *becomes to me quite unmeaning*. And as I cannot try to think of it without realising either that I am not thinking at all, or that I am thinking of it against my will as being experienced, I am driven to the conclusion that *for me experience is the same as reality*. . . . You cannot find fact unless in unity with sentience" (Bradley, *Appearance and Reality*, pp. 145, 146).

I have italicised these quotations in order to bring out the application. I shall not undertake to determine which of the errors above named, confusion, redundancy, or false agreement, predominates. I am not sure that the idealist is not guilty of an original compound fallacy, the fallacy of many fallacies! I may be permitted to observe in this connexion that idealists have to an astonishing degree neglected the proofs of their cardinal principle. Mr. Bradley devotes about two pages to what is the most important and almost the only positive contention that the book contains.

ment gives rise, redundancy, confusion, and false agreement. are, together with the form of the *petitio principii* described above, the characteristic defects of the idealistic argument. It is doubtless true that idealism has had a long and eventful history since Berkeley; and there are many who would maintain that idealism did not begin its history until after Berkeley. But to any one who refuses to permit the issue to be confused, it must be apparent that the theory with which Berkeley startled the world in 1710, is essentially the same as that which dominated the thought of the Nineteenth Century in the form given it by Fichte and Hegel. It is essentially the same, in that the agreement is far more important than the difference. The two theories agree in asserting that consciousness is the universal condition of being, or that *to be is to be either knower or known*; they differ in what they conceive to be the fundamental properties of consciousness and the nature of truth. But it is the principle in which they agree from which both theories derive their philosophy of religion, and to which both have owed their popular influence. And this principle obtains both its simplest statement, and its original arguments in the writings of Berkeley.

III.—LINGUISTIC MISUNDERSTANDINGS.

BY HUGH MACCOLL.

PART II.

IV. THE ANTINOMIES OF TIME.

LET us now consider the words *finite* and *infinite* in reference to time. Here the analysis is more difficult, because the primary conceptions are more complex. For we can have no clear idea of time till we are first in possession of clear ideas of space, number, change and motion. The commonest method of measuring time nowadays is by clocks and watches. But in this way what do we really measure? We measure the *spaces* traversed by the hour, minute or second hands. The astronomer measures time by measuring the angular changes produced by the motions of the heavenly bodies, taking a complete angular revolution of the sun among the apparently fixed stars as his final and most convenient unit of reference. We call this unit a *year*, and to suit our convenience we arbitrarily divide it into other units called *days*, *hours*, *minutes*, and *seconds*. But here again what we really measure is *space*, the apparent space described by the sun, which measures time for us by its apparent motion round a great circle of the sky, just as the hour or minute hand of a clock measures smaller portions of time for us by its real motion round the clock dial. If we perceived no change we could have no notion of time. Our case when we are lying in bed motionless, with shut eyes but awake, is no exception. For in this case we are conscious of our successive ideas or sensations, and from these mental changes we form a rough estimate of the progress of time. These examples sufficiently show how much more complex is the conception of time than the conception of space.

We roughly divide time into three divisions, present, past, future; but how far does each of these extend? By a commonly accepted convention, we agree that the past and the future should each be considered infinite; the latter, reckoned from the present, being conveniently called *positive*; the

former *negative*. But what are the *limits* of the present? Here there is less agreement in linguistic usage. Some regard the present as a mere point in time, passing instantly into the past as soon as it is reached. From some points of view, and for some purposes, this convention has its utility; but they are exceptional cases. As a rule, it is more convenient to ascribe to the present an actual but limited duration, as when we speak of the present hour, the present year, or the present century. Thus viewed, the present presents no difficulty; but what about the infinite past, and the infinite future? These two infinities (direction apart) logically stand on the same footing, and thus ought to present no more difficulty than the infinity of space. Yet they do; at any rate, the former. A thing having once come into existence, be it an inanimate stone, or a sentient being, or the material universe, the conceptual supposition of its continuing to exist for ever in the future gives no shock to the reason. An endless as well as infinite future—infinite in the sense already defined—seems somehow less difficult to grasp, less of a self-contradiction, than a boundless as well as infinite spatial universe. But it is different with regard to a *beginningless* as well as infinite past. Many people, in thinking of an infinite deity, or of the finite or infinite universe, find this beginninglessness an impossible conception, and yet no less impossible the idea of anything, spiritual or material, springing suddenly and causelessly into existence out of an antecedent nothingness. These difficulties generally arise from reflexion and reasoning, for they do not seem to occur to very young children. These, I believe, as a rule, before they have heard of birth or death, take their own eternal existence, past and future, without beginning or end, simply and tacitly for granted. I knew a little girl who, when, at the age of four, she learnt for the first time that all must sooner or later die, her father, mother, brother, sister, and herself not excepted, gave way to a flood of tears, and for some days remained inconsolable. She could not resign herself to the bitter thought that for her, as for all near and dear to her, this happy life which she and they so thoroughly enjoyed must, after a limited but unknown length of time, come entirely to an end. What she thought of her past existence, before her parents had, as she supposed, “bought” her, I never heard, but I think it likely that she took for granted the beginninglessness of her past as she certainly did the endlessness of her future.

Why is an absolute void and nothingness in space an easier conception for us than an absolute void and nothingness in time? I think the reason is this, that in the measurement of

time we have the principle of *repetition* after a complete revolution; in the measurement of space we have not. In measuring the distance from A to B we move from A to B in a straight line and never go twice over the same spot. In the measurement of areas and volumes we adopt the same principle; we never count a unit of area or volume twice over. But in the measurement of time (which we cannot accurately accomplish without also measuring space) we are obliged to adopt the principle of revolution and repetition. The minute or second hand of a watch performs a complete revolution on the circular dial in an hour or minute respectively, and then repeats the revolution again and again *over the same space*. Similarly, the sun appears to describe a complete revolution round a great circle of the heavens in a year, and then repeats the revolution year after year, *round the same apparent circle*. And, *a priori*, before we have studied the origin and evolution of the heavenly bodies, we can see no reason why this should not have gone on eternally in a beginningless past, and why it should not also go on eternally in an endless future. As an *a priori* conception, this beginningless and endless eternity of matter or spirit seems an easier conception than that of a deity or of a material universe starting suddenly into existence out of a preceding eternal nothingness at some infinitely remote point in the past. That the universe should, at some infinitely future date, suddenly explode into its previous hypothetical nothingness is a hardly less difficult supposition. Yet neither supposition involves any logical or linguistic inconsistency. Sudden and startling presentations of inexplicable phenomena, which as suddenly vanish, are not unknown to our experience. Shooting-stars, meteors, fire-balls, etc., may be cited as examples which perplexed our ancestors; and, coming to modern times, how many of the spectators of a cinematograph performance understand the cause or principle of the unexpected marvels which so completely deceive their eyes while they excite their imagination or tickle their sense of humour? Suppose one of these spectators, as might very well happen, were suddenly to drop off into unconsciousness in the middle of a scene, and afterwards, as suddenly, come to himself at the very same point in the middle of the same scene in a repetition of the performance. He would be wholly unaware of the flow of time during his unconsciousness; he would never suspect that he had been unconscious; the rest of the second performance would appear to him the simple and natural continuation of the first. To such a spectator his blank interval of unconsciousness would count as zero in his measurement of time.

"Imagine something analogous to happen to our whole universe, sentient and non-sentient.¹ Suddenly all the laws of nature are suspended. All motion ceases. Gravitation is no more. . . . The rising and falling waves stop as if suddenly sculptured on a sea of ice. . . . The preacher in his pulpit stops in the middle of the word *firstly*; the orator in parliament in the middle of the word *closure*. . . . The brain functions no longer. All thought, all feeling ceases. . . . The universe still exists, if existence it may be called, as dead matter, but its life has departed. Then, after a hundred years (as in the well-known fable), or a thousand years, or a million years, its life returns as suddenly as it left it. The earth resumes its revolution on its axis; the planets resume their course round the sun; motion rebegins everywhere. . . . The preacher continues his sermon; the parliamentary orator his angry protest against the closure. Everything goes on as if nothing had happened; nobody knows or suspects that anything *has* happened—that the life of the whole universe has been arrested for a million or more years.

"Now, from the strictly logical standpoint, how should this hypothetical suspension of all the laws of our universe, physical and psychical, be regarded? What about our scientific formulæ. As regards all formulæ bearing on the question of time in general, and age in particular, would they not be more simply workable, as well as more reliable in their application, if we considered the whole period of cosmic suspension, however long, as non-existent? . . . How many bankers would be willing, or would be able if willing, to pay the amount of interest that would have become due after more than a million years? . . . Confusion and perplexity would meet us everywhere. The only possible solution from the practical standpoint is the one that would be unconsciously adopted: everybody would regard the whole period of suspension as non-existent, as absolute zero."

Now, just as two atoms shot at random in the universe may conceivably collide, though the chance of the collision be infinitesimal, so the preceding hypothetical event may conceivably happen, since it involves no linguistic self-contradiction and is not incompatible with any known data. *It cannot be proved false.* Just as much and no more may be affirmed of many of the speculative hypotheses seriously advanced by serious scientists as serious explanations of the origin and evolution of the universe.

¹This extract I quote (with some omissions) from my *Man's Origin, Destiny and Duty*.

But at present we are not discussing the possibilities of actual events, but the consistency of concepts, and the suitability of the terms in which we strive to express them. Can time exist—exist even as a clear concept—without the existence also of motion, or of the idea of motion? The illustration given will, I think, show that practical science at all event would, in its formulæ and calculations, have to ignore such existence.

V. VIRTUAL EQUALITY.

The so-called 'antinomies' of Kant appear to me to have sprung from a confusion between his clear apprehension of the primary or subjective meaning of the word *infinite* and his somewhat vague apprehension of the only meaning that can (in my opinion) be consistently attached to the word in exact mathematical researches. In practical mathematical researches it will be found that all valid formulæ containing reference to infinities or infinitesimals will retain their validity when these words convey the sense which I give them by express definition, namely, that the former is a number, magnitude, or ratio too large, and the latter a number, magnitude, or ratio too small, to be accurately or approximately expressed in the decimal or any other system of notation. Thus, every infinitesimal is the reciprocal of some infinity, and every infinity is the reciprocal of some infinitesimal; while every finite is the reciprocal of some other finite. On the other hand, the word *infinity*, in its primary or subjective sense, of *endlessness*, merely expresses the liberty claimed by the imagination of "beating the record," so to speak, whenever it chooses; that is to say, the liberty of surpassing any number, magnitude, or ratio, however large, by the conception of a number, magnitude, or ratio still larger. For example, if it be asked how many terms there are in the series A^1, A^2, A^3, A^4 , etc., in which A denotes any number or ratio, we may legitimately reply that the number of terms is infinite. Here however the word *infinite* does not denote a real number at all, nor any property that can be attributed to any real number, nor any class to which any individual number belongs; and the statement that the number of terms is infinite is only another way of saying that though there is a definite *first* term there is no definite *last* term; or, in other words, that there is no fixed limit beyond which the imagination may not continue the series. When, on the other hand, we say that the sum of the series $A^1 + A^2 + A^3 +$ to infinity, assuming A to be a proper fraction between 0 and 1 (say, the fraction *one-half*) is $A/(1-A)$, what we really mean is that

(denoting the class, or any individual of the class, of infinities, H_1, H_2, H_3 , etc., by H , and the class, or any individual of the class, of infinitesimals, h_1, h_2, h_3 , etc., by h) if we denote the sum

$$A^1 + A^2 + A^3 + \dots + A^H$$

by S , then we shall have

$$\left(\frac{A}{1-A} - S \right)^h,$$

a symbolic statement which, in my notation, asserts that the difference between the greater ratio $A/(1-A)$ and the less ratio S is infinitesimal. Mathematicians commonly write

$$A + A^2 + A^3 + ad\ infinitum = A/(1-A);$$

but this equality never holds absolutely, for however far the series may be carried, the sum S is always less than $A/(1-A)$. Here the total number of terms in the series is the real though infinite number H , and the last term¹ of the series is A^H , which is necessarily an infinitesimal, since, by our data, A is a proper fraction less than 1. Hence also the statement $S = A/(1-A)$ asserts *virtual* and not actual equality; that is to say, there is a real difference between the two ratios asserted to be equal, but the difference is infinitesimal compared with (*i.e.*, divided by) either. (See my paper on *Symbolic Reasoning*, No. viii., p. 509, in *MIND*, October, 1906.) This example illustrates the sense in which mathematicians commonly use the word *infinite*, though the lack of an exact and satisfactory definition of the word in the generality of textbooks renders their language sometimes obscure and their statements apparently inconsistent. In this and similar cases we may write $S = A/(1-A)$, provided it be understood that *virtual* and not absolute equality is asserted. As defined in my paper in *MIND*, two quantities or ratios, finite, infinite, or infinitesimal, are said to be *virtually* equal when the difference between them is infinitesimal compared with (or divided by) either, and in the infinitesimal calculus it would be convenient if we adopted the convention that the symbol of equality ($=$) between two quantities or ratios in the statement ($A = B$) only asserts that the two are either virtually or absolutely equal. Thus the statement ($x = x + dx$) asserts *virtual* equality, whether x be finite, infinite, or infinitesimal, it being understood that dx/x is an infinitesimal ratio.

¹ The symbol A^H may either denote the H th power of A (the exponent H being infinite by definition) or the statement that A is infinite. The context will always make clear in what sense it is employed in each case, for it is scarcely possible to mistake a statement for a ratio, or *vice versa*.

Prof. Keyser, in the *Hibbert Journal* of October, 1909, page 188, says that—

Mr. MacColl's conception of the *infinitesimal* is one that mathematicians have not been able to employ. As used by them, the term signifies, not a small quantity, but a variable that, under the conditions of the problem in which it occurs, may be *made* and kept small at will—a variable having zero for limit.

To this I reply that I believe the reason why mathematicians have not, so far, employed my conception of the *infinitesimal*—a conception which they all possess, however differently they may express it—is that my allied and complementary conception of “virtual equality” had never occurred to them. Restricting, as they do, the symbol of equality ($=$) to *absolute* equality, they could not consistently make the assertion ($a=a+x$) even when x is infinitesimal compared with a , so that, to preserve logical accuracy, they are obliged to be continually appealing to the round-about notion of a *limit*, an appeal which my proposed convention as to ‘virtual equality’ and the meaning of the symbol ($=$) would render needless and irrelevant, without sacrificing one iota of logical accuracy.

In explaining the principle of a ‘derivative’ or ‘differential coefficient,’ modern writers on the infinitesimal calculus find it necessary to lay down various cautions to prevent beginners from misunderstanding the real meaning of their symbolic formulæ and operations.

Let me quote the following from an excellent work (*An Elementary Course of Infinitesimal Calculus*, by Horace Lamb, F.R.S.) which I have often recommended to pupils :—

The symbol dy/dx is to be regarded as indecomposable, it is not a fraction, but the limiting value of a fraction. The fractional appearance is preserved merely in order to remind us of the manner in which the limiting value was approached.

Now, I agree that dx and dy should each separately be regarded as indecomposable, the letter d having no meaning apart from the letters x and y , which denote real quantities or ratios; but there is no necessity for so regarding the whole complex symbol dy/dx . I see no reason at all why we should not, like Leibnitz, regard dy/dx as a real fraction whose value depends upon the real values of its numerator and denominator dy and dx . The following simple example will, I feel sure, make this clear to every reader of MIND, whether he be acquainted with the infinitesimal calculus or not :—

Let $y=x^2$, and let dx be infinitesimal compared with x , so that dx/x is an infinitesimal ratio. Also let dy denote the

increment received by y (that is, by x^2) in consequence of an infinitesimal increment dx received by x . Otherwise expressed, let $dy = (x + dx)^2 - x^2$. We get

$$dy = 2x dx + (dx)^2.$$

Hence, $dy/dx = 2x + dx$. So far, the sign of equality has denoted *absolute* equality. Now, since (by definition) dx is infinitesimal compared with x , it must also, *a fortiori*, be infinitesimal compared with $2x$, so that we get $2x + dx = 2x$. Here the sign of equality denotes *virtual* and not *absolute* equality. Thus, finally, we get $dy/dx = 2x$, an equality which is again *virtual* and not *absolute*. From this point of view there is no reference to a limit, as the conception of a limit is not needed. In this case, dx and dy are two really existing infinitesimals, and my assertion that the ratio of the latter to the former is *virtually* equal to $2x$ (as I define the word *virtually*) is really equivalent to what mathematicians mean when they say that $2x$ (technically called the "differential coefficient of y with regard to x ") is the *limit* to which the fraction dy/dx approaches as the increment δx (which they never speak of as an *infinitesimal*) approaches zero.

Let it be clearly understood that an assertion of virtual equality, such as $(x + dx = x)$, not merely asserts that dx is *negligible* compared with x , that practically it may be omitted because of its extreme smallness in comparison, but that it *must* be omitted in all possible calculations, because (by express definition) no arithmetical notation, and *a fortiori*, no instrument however delicate, can ever take account of its existence.

If a regular polygon of M^M sides (in which M denotes a million) be supposed inscribed in a circle, the difference by which its perimeter falls short of the circumference is certainly negligible, and more than negligible, compared with either as regards all practical calculations, but the ratio is not *infinitesimal*, because, though inconceivably small, it is still arithmetically expressible; that is to say, it can be expressed approximately by certain conventional collocations of the ordinary digits. In this case, therefore, we cannot consistently assert that the perimeter is *virtually* equal to the circumference. And if for M^M we substitute its millionth power M^{MM} , or any other huge but arithmetically expressible number, the result will be the same; the excess of the circumference over the inscribed perimeter, though utterly negligible, will, from our very definitions of the terms, be *finite* and not *infinitesimal*. But if we suppose a regular inscribed polygon of H sides, then the difference between the perimeter

and the circumference would be infinitesimal compared with either (since H is, by definition, infinite); and for this reason, we can here assert that the perimeter is *virtually* equal to the circumference, and express this virtual equality in the form ($P=C$), in which P stands for *perimeter*, C for *circumference*, and the symbol ($=$) for an assertion of *virtual equality*.

Leibnitz founded his infinitesimal calculus on the notion of infinitesimals, which he merely regarded as extremely minute quantities, without clearly indicating in what respect an infinitesimal differs from a very small finite. Newton founded his calculus on the notion of the 'ultimate ratios' of vanishing quantities; that is, the ultimate ratio of the increment δy to the increment δx when the latter (and consequently, as a rule, the former), by continual decrease, reaches the limit zero; in which case $\delta y/\delta x$ takes the form $0/0$. Both were right in their respective conceptions, but they expressed those conceptions awkwardly and in apparently self-contradictory language, which led the logicians, and many even of the mathematicians, of the day to question the legitimacy both of their reasoning and of their symbolic operations. Modern mathematicians have adopted Leibnitz's notation as more convenient than Newton's, but they have completely rejected the conception of negligible infinitesimals on which Leibnitz founded his notation, on the ground that it is logically inadmissible. And logically inadmissible the conception undoubtedly is so long as the symbol of equality ($=$) is restricted to *absolute* equality; for it is clear that A cannot be *absolutely* equal to $A+h$ so long as h has any real value however small. But my convention, that the symbol of equality shall only denote an equality that may be either absolute or virtual (as I define the word *virtual*), entirely removes from Leibnitz's symbolic formulæ and operations the reproach of inconsistency. Modern mathematicians, following Newton's conception, have secured for it a certain measure of consistency, but at a heavy and needless sacrifice of brevity and simplicity. They have replaced Newton's conception of an 'ultimate ratio' of the form $0/0$ by the more consistent idea of a *limiting* ratio, which they express in the form dy/dx . They regard dy and dx , however, not necessarily as infinitesimals or other small quantities, or indeed as necessarily quantities at all. They merely insist that the composite symbol dy/dx shall denote the exact limiting ratio which it is employed to represent. They thus studiously avoid Leibnitz's notion of *infinitesimals* by dispensing even with the word. Instead of speaking of infinitesimals, they nearly always speak of *limits*.

If x and a be real ratios (finite, infinite, or infinitesimal)

and virtually equal, it generally follows that any function of x (if a real ratio) is virtually equal to the same function of a . When two infinities H_1 and H_2 are virtually equal, their difference $H_1 - H_2$, or $H_2 - H_1$, though necessarily infinitesimal compared with (or divided by) either, may be finite, infinite, or infinitesimal compared with any finite. All that the definition of "virtual equality" requires is that the fractions $(H_1 - H_2)/H_1$ and $(H_1 - H_2)/H_2$ shall each be either a positive or negative infinitesimal.

If x and a (whether finite, infinite, or infinitesimal) be virtually equal, the fraction $(x^n - a^n)/(x - a)$ is virtually equal to na^{n-1} . Mathematicians usually express this by saying that na^{n-1} is the *limit* to which the fraction $(x^n - a^n)/(x - a)$ indefinitely approaches as the variable x approaches the finite constant a . But by my proposed convention as to "virtual equality" and the meaning of the symbol of equality ($=$), the ratio a need not be finite. The proposition holds good universally, whether x , a , n (individually or collectively) be finite, infinite, or infinitesimal.

Let $A_1, A_2, A_3, \dots, A_n$ be any ratios in ascending order of magnitude, and such that A_1 is virtually equal to A_2 , A_2 to A_3 , A_3 to A_4 , and so on. Then, if n be not infinite, the smallest ratio A_1 is virtually equal to the largest ratio A_n , so that we can write $A_1 = A_2 = A_3 = \dots = A_n$.

From this theorem it follows that in mathematical researches involving n affirmations of *virtual equality* (however large the finite number n may be), no error can possibly enter into the final result through the repeated omission of infinitesimals in successive affirmations of virtual equality. The theorem is a simple corollary from the easily proved formula $(Fh)^h$, which asserts that the product of a finite and an infinitesimal is an infinitesimal. The formula holds however large the finite F may be—even if it denote the millionth power of the millionth power of a million.

VI. MATTER AND MIND.

Among the antinomies discussed by metaphysicians are the arguments for and against the possibility of the real existence of space, time, and the material universe, apart from the existence of a human or superhuman mind to perceive them. To enter seriously and fully into such a discussion would be a formidable undertaking. No one can do so profitably without first making sure that he and his readers attach the same meanings to the words he employs. Otherwise he enters a labyrinth of ambiguities from which it is scarcely

possible for him to find an exit. And the readers who venture to follow him commonly share his fate. The words *real* and *existence* especially need defining, and definitions of them are not easy. We all understand these words in various senses according to the context; and often also, even with the context to guide us, we woefully *misunderstand* them. In common parlance we speak of real existence and of unreal (or imaginary) existence, and, logically enough, we regard these two classes of existence as mutually exclusive. Yet, on close inspection, it is not easy to find the exact line of demarcation. Should the abstractions *truth* and *error* be considered unrealities because they have no form, weight, or substance? Hardly, though their existence certainly depends upon that of the persons who understand or misunderstand them. Is an unreal or imaginary existence a contradiction in terms, a linguistic inconsistency? What is the difference between an unreal or imaginary existence, such as that of a fairy, and an absolute non-existence? May we reply that unrealities, like fairies and fictitious characters in novels, exist in the mind, and must therefore have at least a *subjective* existence? "In the mind?" What does the preposition *in* here mean? Is the mind (or soul) then a substance of some kind, material or immaterial, in which another substance, real or imaginary, can exist? Or are we merely talking figuratively and—rather vaguely—because the ideas which we strive to convey are too vague for exact expression? Is the mind the same as the soul? And if not, what is the difference? Can the distinction be clearly shown by an exact definition of each? Materialistic philosophers—or those who call themselves such, for these words also are ambiguous—sometimes speak of the soul as a "function of the brain," and sometimes as an "emanation from the brain". What do they mean? If they were pressed hard for definitions or explanations, and answered frankly, I think they would be forced to own that they did not know—that—to put it bluntly—they had been talking nonsense. In mathematics the word *function* has a clear and definite meaning. As a rule, when we can correctly say that y is a function of x , we can also say correctly that x is a function (though generally a different function) of y . If in this or some analogous sense, the soul can be said to be a function of the brain, can we, following the mathematical analogy, say that the brain is also a function of the soul? Idealists might plausibly maintain this view, but not materialists, as it is directly opposed to the latter's fundamental conceptions. Again, taking the other materialistic view, how can the soul be an

"emanation," or *flowing*, from the brain? Can the soul, even as an analogy or metaphor, be likened to a liquid or gas flowing or escaping from a reservoir? The points of unlikeness are surely far more numerous than those of resemblance. And of the points of unlikeness the most striking is the fact that the mind or soul is *conscious of its own existence*, while the flowing gas or liquid is *not*.

In connexion with this question of the soul, I may be allowed to say a few words in reference to an objection raised by Prof. Taylor in his kind and appreciative criticism of my *Man's Origin, Destiny and Duty*, in *MIND*, July, 1909, pp. 451-453. In that book I define the soul as "*that which feels*," and argue that, wherever it may be situated, there is no proof that it is in the brain or nervous system, as these, judging from observation and experiments, appear (like the rest of the body) to be mere insensible channels through which some unknown force is transmitted (we know not whence) *to* the soul, causing sensations, and *from* the soul—generally by exertion of the *conscious will*—producing actions. In regard to this view, which he does not seem wholly to reject, Prof. Taylor writes:—

But the view is still retained that this subject [the soul or real subject of consciousness] is extended and occupies a region in the physical space of ordinary perception. Thus Mr. MacColl's contention against the ordinary materialist takes the form of maintaining that the 'soul' must be *somewhere*, but the *somewhere* need not be "in the brain": it may be millions of miles away. Now, I should prefer to ask whether the question "Where is the soul?" has any meaning at all. Is it more reasonable to ask whether *e.g.* my belief that $2+3=5$ is in my brain or ten millions of miles away, than to ask what is the distance between Piccadilly Circus and the middle of next week? . . . The seat of consciousness is removed to a distant and possibly extra-stellar point, but the question still remains whether there would be any sense in saying that thought and sensation are "at" this point? Does a thought or feeling take up any extension at all? I think the author would see, on further reflexion, that the unity of our mental life, on his theory, would commit us definitely to the view that the soul literally is a mathematical point, and such a view is surely as unintelligible when that point is said to be millions of miles away as when it is said to be "in" the brain. The real absurdity surely lies in assigning presence "at" a point to the self at all.

Now, I admit at once that these are serious objections to my theory or hypothesis that the soul (whether material or etherial, or composed of some other substance entirely imperceptible to our present human senses) may possibly have, at any given moment, some definite though unknown form or size, and may occupy, like a planet, sun, or atom, some definite though unknown position in space. Great however as are the difficulties that lie in the way of this hypothesis,

those that confront the opposite hypothesis, the hypothesis that the soul (the sentient entity by my express definition) has no spatial existence, seems to me more formidable still. But here again, perhaps, Prof. Taylor and I, like so many other sincere controversialists, do not always attach quite the same meanings to the same words. Even if my hypothesis led to the conclusion he supposes, that, as regards size, the soul corresponded to the conception of a mathematical point—a conclusion which can hardly follow from my premisses, since these leave its size and form unknown and indefinite—the conclusion would involve no inconsistency. For, from my point of view—which I admit however to be different from that of mathematicians in general—a point may have any size whatever, provided the unit of reference be infinite in comparison. If any portion of matter, whether an atom, an electron, or something else still smaller, be infinitesimal compared with any nameable finite unit, be it the volume of a drop of water or that of the earth, then, and not otherwise, it may be regarded as a *point*. And this infinitesimal point may also consistently be conceived of as infinite in comparison with another point still smaller; and so on *ad infinitum*. It is all a matter of ratio or comparison, and depends entirely upon our arbitrary unit of reference. A ratio h_1/h_2 between two infinitesimals, like a ratio H_1/H_2 between two infinities, may be finite, infinite, or infinitesimal; but a ratio F_1/F_2 between two finites *must* be finite, from our very definition of the word. Assuming the soul to have a spatial existence, we have no data at present for determining its size, form, or position at any given moment, or whether these be fixed or variable. If any man chooses to assert that his soul (spatially considered) is at this moment finite, or that it is infinite, or that it is infinitesimal (these words being understood as I define them), I can neither verify nor disprove his assertion, though the first hypothesis—I cannot in the least explain why—seems to me the most likely. “But why consider the soul spatial at all?” Prof. Taylor would ask. My reply is that otherwise I must regard it as belonging to the class of entities which most grammarians lump together under the name of *abstractions*, such as *hunger*, *hardness*, *battle*, etc., and that such abstractions are but disguised predicates which cannot be separated from some non-abstract subject understood. There can be no hunger without a hungry person or animal; there can be no hardness without some hard substance; and there can be no battle without some sentient beings (human or non-human) who struggle for mastery. Similarly, I cannot conceive of a *thought* apart from a *thinker*.

or of a *feeling* or sensation without a soul or *feeler*. The last word is here used in a somewhat novel sense, but the context explains it. And as, by express definition, I class thoughts and mental emotions in the category of sensations, it follows that the soul (including mind and spirit) is the thinker as well as the feeler. This extension of the meaning of the word *feeling* or *sensation* may not be in accordance with the usage of psychologists or physiologists, but it is, I think, in accordance with the usage of all of us in ordinary speech ; for don't we all employ such expressions as "I feel sure," "I feel the force of the argument," etc.? Besides, words are after all mere symbols, like the mathematician's x , y , z , to which we may give any convenient meaning that suits our purpose, provided the context leaves no doubt as to what that meaning is. Can an idea, or emotion, or sensation, or occurrence be consistently spoken of as occupying any definite position in space? Yes, provided the speaker's or writer's meaning can be inferred clearly from the context. No one misunderstands the meaning of such a remark as "her thoughts are far away with her absent children," and nobody in this case is under the delusion that the thinker is in one place, and her thoughts far away in another. Don't we speak of the site of such and such a battle, though the abstract conception of a battle has in itself no form or position apart from those of the combatants? The conclusion arrived at by some modern psychologists, that "the thoughts themselves are the thinkers," seems to me as much a linguistic inconsistency as would be the statements that "the combats themselves are the combatants," that "the receipts themselves are the receivers," and that "the speeches themselves are the speakers". The statement (which I have quoted from memory) that "the thoughts themselves are the thinkers," is, if I am not mistaken, due to Prof. James. I do not suggest that it expresses Prof. Taylor's opinion, but it seems to me that his opinion that the soul cannot consistently be spoken of as occupying any spatial position necessarily leads to the conclusion expressed by the quoted statement.

VII. MATTER AND MIND.—*Continued.*

But then it may be asked, "If the thought itself is not the thinker, where is the thinker?" Superficially considered, the question sounds absurd. "*There* is the thinker," it may be replied—"that one-armed and one-legged man, sitting on that bench in the park, with that far-off look in his eyes." "Yes, but how much of him constitutes the thinker?" Since

he can still think, and think as well as when he had two arms and two legs, the missing arm and leg formed no indispensable portions of the thinker, any more than his hair, or his nails, or his clothes. He is still the "thinker" without them. How far can we carry on this slicing away of non-indispensable portions of the material body and still leave the "thinker"? What is very curious is that that one-armed and one-legged thinker will tell you that when the weather is damp he still feels pains in his fingers and toes, not merely in those of the arm and leg which he still possesses, but also in those of the arm and leg which have been amputated and no longer, so far as he is concerned, exist. Point out to him the absurdity—at least from the linguistic standpoint—of this statement, and he will own it; but yet he will assure you that if the evidence of his eyes, aided by that of his sense of touch, did not convince him of the contrary, he would be under the illusion that he still possessed the missing members also; for that the sensation of pain, apparently felt in the no longer existing toes and fingers, is exactly similar now, after the amputation, to that which, in damp weather, he had previously felt before it. The hasty physiologist will say that, in spite of the apparent direct evidence of his senses, a man really feels pain *in his brain*, the seat of all pain and pleasure, mental or physical, as of all other kinds of sensation or consciousness. The evidence for this conclusion was never quite convincing, and modern experiments and observations tend more and more to discredit it. The brain, it is true, is an important medium through which the soul receives sensations, and generally the possibility of thought, sensation or consciousness, depends upon its physical condition—just as generally—not always—the sensation of warmth depends upon the physical condition of the atmosphere. In the same condition of the atmosphere one person may experience an uncomfortable sensation of heat, while another, standing near him, may shiver and suffer from the very different sensation of cold. Generally speaking, the sensation of seeing depends—in part at least—on the condition of the eyes, that of hearing on that of the ears, and that of smelling on that of the nose; but if recent experiments made by eminent doctors and physiologists can be trusted, the soul—which is the sentient entity by definition, and therefore the real person—can, in certain exceptional cases, see, hear, and smell through other channels than the organs through which those sensations are usually transmitted. If then the eyes, ears, and nose are not absolutely indispensable organs for the transmission of their special sensations to the soul, why should the brain be an

absolutely indispensable organ for the transmission to the soul of sensations in general, thoughts and mental emotions included? So far, if I am not mistaken, Prof. Taylor and I hold the same views; we neither of us believe that the brain or any other material part of the body feels or thinks; but we differ as to the propriety of assigning spatial position anywhere, either within the body or without the body, to the mysterious entity that does.

I may remark that, in their essential principles, the arguments which led some philosophers to deny the spatial existence of the soul lead others to deny, not only the spatial existence of the soul, but the real existence, except as a concept, of space itself, and as a necessary corollary, the real existence of time, with which the existence of space seems to be inseparably connected. Thus, the whole objective and material world is resolved by them into Berkeley's subjective immaterial "ideas," or, as I find it more convenient (because more widely suggestive) to call them, *sensations*. I prefer the word sensations, because some philosophers deny 'ideas' to the lower animals, whereas sensations, and therefore *souls*, as I define the word, belong, as they admit, to both. Now, the question at issue is this: Does matter exist except as a mere sensation, or as a mere collection of sensations? The true answer seems to me to be this, that matter, in its common conditions of solids, liquids, and gases, is a very prominent *cause* of certain sensations, but should not be identified with the sensations themselves; which, whether elementary or compound, should be considered as its *effects*. It leads to self-contradiction to identify a cause (whether known or unknown) with its effects. Just as we infer a cause from its effect or effects, as, for example, the existence of a lion from its roaring or footprints, so we infer the existence of matter (whatever its ultimate constitution) from one or more of the sensations which it produces on the subjective or sentient portion of us which I call the *soul*.

To make my meaning plainer, let me give a homely illustration similar to one of Berkeley's, but somewhat differently presented and developed. I see before me something which, from its appearance, I infer to be an apple; but as the evidence afforded by the sensation called *seeing* is not always reliable, when unconfirmed by other sensations, I approach, touch, lift, and smell it. Let us suppose that the fresh sensations thus obtained strongly confirm my former conclusion, but do not convince me entirely, as, after all, the supposed apple might be a small turnip shaped and painted by a clever practical joker to resemble an apple, and rubbed by him with apple essence so as to deceive the sense of smell. As a final test

therefore I cut a small slice and bite and chew it. If the new sensation of taste thus added to my former data confirm my former conclusion, may the conclusion be now regarded as absolutely certain? Not quite, for in spite of the evidence afforded by all those sensations, it might conceivably happen that a fresh sensation, namely, the discovery of a hard substance like a peach-stone at its centre, would prove to me that this was a new kind of fruit which, while it possessed many of the properties usually connoted by the word *apple*, possessed others which the word, as hitherto understood, did not connote. What in such a case should we do? Extend the meaning of the word *apple* so as to include the new fruit? or invent a fresh name, such as a *peach-apple*, or *apple-peach*, to distinguish it? Neither course would involve any logical inconsistency, but the latter would be more convenient. Now, in this case, should the word 'apple-peach,' or 'peach-apple,' denote the total collection of sensations? Should it not rather denote their cause?—or, to speak more accurately, the more salient portion of the infinite number of their causes? For, be it remarked, a cause is never single. The number of causes producing any sensation is really infinite. We could not, for example, have the sensation of seeing without the vibrating ether, nor the sensation of smell without the air to convey the effluvium, and so on for other causes, of which a few are more or less known, but of which the infinite majority must, to our very limited faculties, remain for ever unknown and unsuspected.

Now, the analysis which we have here applied to a word denoting a particular kind of matter may also be applied to the term *matter* in general. The first question to be settled is: What property or properties do we attribute to *every* kind of matter, apples included? Scientists in general agree that whatever entity comes under the designation of *matter* must possess at least one property, the property variously named *weight*, *ponderability*, or *attraction*. In other words, every particle of matter in the universe attracts and is attracted by every other particle of matter. We notice this property, this tendency to mutual approach, according to a certain observed law, in several substances, we infer it in others, and we agree that all the substances, known or unknown, which possess it shall be called *matter*. But what do we mean here by the words 'notice' and 'infer'? 'Noticing' and 'inferring,' like all other percepts and concepts, come (according to my definition) under the general name of *sensations*, so that, otherwise put, *matter* is, as in the former analysis, the name of the most prominent of the many causes of these sensations.

But there is one perplexing entity which this definition of

matter appears to exclude. I speak of the hypothetical ether. I say "hypothetical," not because I doubt the existence of some space-occupying substance whose vibrations and other properties cause the sensation of seeing, as well as other sensations which (or whose causes) we connect more or less with such vague words as *heat*, *electricity*, *magnetism*, etc., but because the various properties commonly attributed to the ether are difficult to conceive as coexisting in the same substance; and also because no two scientists quite agree as to the list of properties which would constitute a self-consistent and satisfactory definition of the substance which the word *ether* is supposed to represent. Prof. Haeckel, in his *Riddle of the Universe*, speaks of the ether as "imponderable matter," which (if ponderability is the one quality by which we distinguish matter from other entities) is a clear contradiction in terms. We may consistently call the ether an imponderable *substance*, or an imponderable *entity*, and conceive of it as occupying a portion (finite or infinite) of abstract space, but we cannot consistently speak of it as imponderable *matter*.

Pushed to their extreme logical limit, the arguments against the spatial existence of the soul—of the entity that feels—would be equally valid against the spatial existence of the ether, or even of matter itself. If matter or the ether be space-occupying *causes* or *transmitters* of sensations, why should not the soul be similarly a space-occupying *receiver* of sensations? Why also should not one soul similarly transmit (more or less modified) the sensations received, or similar sensations to another soul, human, superhuman, or infrahuman? As to the exact volume of space (fixed or variable) occupied at any given moment by any individual soul, from an infinitesimal to an infinite, nobody has any data for asserting; but then nobody has any absolutely sure data for making a similar assertion about the space or volume occupied at any given moment by any individual material body, or even by the whole material universe. Suppose the volume or space, compared with some imaginary fixed and constant unit of reference, occupied by the whole material universe at this moment were rapidly diminishing, but that all our units of distance, area, volume, time, and forces were also changing in corresponding proportions. We should for ever, generation after generation, remain ignorant of the appalling circumstance. When our mile had become an inch we should still call it a mile, and our new inch would have the same ratio to the new mile as our old inch had to the old mile. When our year had become a second, our new second would be reduced in proportion, and so would the

duration of our thoughts, actions and lives. When our bodies had become microscopic, in proportion to their present size, we should still consider them of the same size, weight, and volume as we consider them now; and, relatively to the respective new units of size, weight, and volume, the same numbers and fractions would represent them. Yet, when our material universe had thus shrunk (as regards volume) to an atom or an electron, with our stars, our planets, and ourselves, all inside it as at present, and at the same relative distances, we should still be logically obliged to consider it as real as we consider it now, and, for exactly the same reasons. On the other hand, the other mathematical, abstract, empty, soulless spatial universe of nothingness beyond would, as now, have any dimensions we chose to assign to it, subject, as now, to the condition that (solely for the convenience of symbolic reasoning and calculation) we should assume those dimensions to be infinite.

But, it may be asked, if the whole material and ethereal universe, and *a fortiori* our own bodies, might thus eventually become infinitesimal in comparison with our present units without our ever suspecting it, does not this reasoning arrive at virtually the same conclusion as that of the idealists, who maintain that matter, space, and time are mere conceptions of the mind, and that, except as mental conceptions, they have no real existence? To this I can only reply that as regards the empty, abstract, airless, etherless space of the mathematician, the conclusion seems to me correct, and that, since time, even as a concept, cannot well exist apart from space, the conclusion may be correct as regards time also; but I cannot quite see how we can consistently speak of *matter* as a mere concept. The question of size is wholly irrelevant. An ant, or even a microbe, is every whit as real as a whale or an elephant. We must define our words so as, if possible, to avoid self-contradiction, and if matter be defined as a *cause* or *transmitter* of a certain defined class of sensations, this cause or transmitter must (like the soul or *receiver* of sensations) be as real as the sensations themselves. This follows from three fundamental assumptions with which neither science nor logic can well dispense without linguistic inconsistency. They are: first, that every effect must have a cause or combination of causes; secondly, that an effect can never be its own cause, nor a cause its own effect; and, thirdly, that if any effect be considered real, its cause or causes must be considered real also. The words cause and effect are here used in their customary scientific sense, without any implication, affirmative or negative, as to the real existence of one single *First Cause*.

IV.—THE SUBLIME.

BY E. F. CARRITT.

I.

IN his recently published lecture on "The Sublime"¹ Mr. Bradley defines it as a species of the Beautiful: "A large part of its effect is due to the general nature of Beauty". Its differentia is Greatness: "exceeding or overwhelming greatness". So that a beautiful thing, if great also, should be sublime. This is qualified by the explanation that size is only sublime when construed as the sign of power, or at least this is said to be certainly the case with living beings.

Corresponding to this difference in objects a difference is described in the feelings they excite. The pleasure we take in sublimity instead of being immediate, purely affirmative as is that of beauty, is conditioned by a previous negative stage of repulsion in which we feel "checked, baffled, menaced". This, however, is followed by a feeling of "expansion or uplifting," and the last stage is always positive, for even when the sublime thing is terrible or forbidding we end in a consciousness of union with it.

Besides the usual instances of mountains, sea and sky, Mr. Bradley suggests as test cases: babies, rainbows, sunrise in the high Alps, and a sparrow dying in defence of its young from a dog.

This account, philosophical and sympathetic as we expect Mr. Bradley's criticism to be, and admirably suited to its occasion, suggests questions as to the nature of 'Sublimity' which may perhaps most easily be asked in the form of a discussion of his theory.

Such a view as that before us avoids many difficulties of the older accounts, especially by making sublimity a species, instead of the antithesis, of beauty, by claiming that we do, therefore, ultimately sympathise with the sublime object, and by dropping the distinction between the Mathematical

¹ *Oxford Lectures on Poetry*, by A. C. Bradley, formerly Professor of Poetry in the University of Oxford, 1909.

and Dynamic, that is between the sublime of mere size and that of power. But just these changes which make the theory less unpalatable make the class so vague and the varieties of it so heterogeneous, that we may ask if it is a real class at all or only an unessential concept, under which almost any divergences from the central type of beauty, that can from different points of view be detected, are arbitrarily put together. The definition indeed almost by its terms arouses this suspicion. Mr. Bradley has so long disappointed us of a philosophy of beauty that we do not know whether 'very powerful' is for him an essential specification of the general concept 'beauty'; but it is hardly certain that we are offered in 'sublimity' more than the mere sum of the two qualities beauty and power.

To examine the value of the concept we may ask two questions: first, do objects of the kind described always occasion the feelings described? And second: are the feelings described only occasioned by objects of the kind described?

(1) It is obvious and irrelevant that what in ordinary language would be called the same object may at the same time appear sublime and not to equally good judges. As Mr. Bradley says, we more often see the beauty than the sublimity of mountains among which we live. "Our business,"¹ writes Wordsworth, "is not so much with objects as with the law under which they are contemplated—the same object may be both beautiful and sublime, but it cannot be felt to be such at the same moment." The question then that we have to ask is this: So far as a great beautiful object is construed as the sign of an unmeasured power, is our pleasure in it always conditioned by a preliminary negative stage in which we feel repelled, checked, baffled or menaced?

I cannot find that it is so in my own case. Never till I had read Kant did it occur to me that sunrise over Monte Rosa should give rise to any such feelings. Yet I do find on analysis of one's un-self-conscious delight in it an element of feeling for size, but a wholly sympathetic one; an imaginative exhilaration, as it were, in being so great oneself, or in anything so great having one's own consciousness. Certainly it is often the vastness of a vast view that pleases us; does it first repel us?

On the other hand I did not see the falls of Schaffhausen till I had read Kant and some other writers on the sublime. I went to them partly, indeed, to see if I should verify

¹ *Letters of the Wordsworth Family*, ed. Knight, vol. ii., p. 245.

Coleridge's famous distinction; but though I tried to analyse my feelings carefully, and though the most prominent of them was one for the enormous display of power, I could discover nothing of that negative, checked, menaced preliminary state. My pleasure seemed to be immediate. 'Pretty' no doubt would have been an inappropriate word, but 'beautiful' would have satisfied me, and I should have accepted 'graceful' with some enthusiasm. For the main feeling, it seemed to me, was one of ready sympathy for all this untiring and easy motion. It gave one the same feeling of inexhaustible life and lightness and activity that one gets from the running of a fawn or the waves of a rough sea, or the dancing of a child. Each of these is of course a different beauty, but I do not see why any one should be assigned to a separate species.

And just as this last analogy has often suggested itself to the poets (*e.g.* "Winter's Tale," IV. iv. 141), so, at the risk of amusing the critic, I must admit finding the 'statuesque' beauty of a mature human being in repose comparable to that of great mountains—

Shadowing more beauty in their airy brows
Than have the white breasts of the Queen of Love.

To catch a full view of the Alps unexpectedly is an experience corresponding closely to what the poets tell of "Love at first sight".

The same question may be raised about works of art; and of them I should instance the following, which though we construe them as expressing power, and that often by the great size of what they represent, yet arouse no momentary feelings of menace or repulsion:—

In sculpture: The Venus of Melos.

In painting: Constable's clouds, some of which suggest by their volume immense power and sweep, but of a wholly attractive kind, so that we look at them with the same immediate pleasure with which we watch a sea-gull; or some of Turner's sunsets where the vastness of heaven is made both obvious and enchanting; or Blake's drawing of Dawn; or the nudes of the Sistine ceiling.

In poetry: Addison's instance from Milton—

Imparadised in one another's arms
(*Spectator*, No. 285, *P.L.*, iv. 506).

Goethe's—

Über allen Gipfeln ist ruh
. . . Bald ruhest du auch.

Wordsworth's cloud—

That heareth not the loud winds when they call
And moveth all together if it move at all.

Or Shakespeare's—

Full many a glorious morning have I seen
Flatter the mountain tops with sovereign eye.

Finally, I do not see why mere power, when a hostile relation of it to the human will is not part of the æsthetic presentation, should necessarily give rise to any such feelings. To suppose that it does so rests on the assumption that in presence of a very great or strong, though beautiful, object the æsthetic imagination at once conjures up nightmarish of impending annihilation. Surely, on a truer analysis, just so far as it is an æsthetic imagination, it is unapt, especially if the object be beautiful, to take this practical point of view. Unless the external and hostile relation of the human will to the object be definitely suggested, it rather leaps out in glad sympathy with the splendid existence of the grand object for its own sake. Any one may notice that in watching the most terrific breakers on the Atlantic coast it is never with the protecting rock, but with the threatening waves that he naturally sympathises, always wishing for yet a bigger one.

So far as with this cheerful admiration for great powers and wide reaches there is bound up a sense of short-coming—not only that we ourselves are small but that our imagination is weak and soon wearied;—of all such feelings I would rather accept an account, like that of Ruge,¹ which puts the negative or painful feeling second and the sympathetic expansion first. But this feeling of our own inferiority both to what we admire and to those imaginative moments when we most admire it, is at least as characteristic of our appreciation for simple beauty as of that for the most enormous and terrible.

(2) Leaving this question, we may now ask whether the effects which Mr. Bradley describes are not sometimes produced upon us by the æsthetic contemplation of objects other than those to which he attributes them. The effects in question are these: “a sense of being checked or baffled or even stupefied or possibly even repelled or menaced as though something were affecting us which we could not receive or grasp or stand up to”.

¹ *Neue Vorlesung der Ästhetik* (Halle, 1837), p. 72. Quoted by Seidl: *Zur Geschichte des Erhabenheitsbegriffes seit Kant* (Leipzig, 1888), p. 61. I have not seen Ruge's book.

This does I think describe certain æsthetical effects, but I do not feel sure that they are always the effects of objects construed as signs of power. I once asked a friend whose taste and judgment I respect, but who is not much read in the philosophy of this subject, how he would apply the ordinary distinction of Beauty and Sublimity to different arts. He instanced that in poetry Keats' 'Ode to a Greek Urn' might be beautiful, and Wordsworth's 'Michael' sublime; in painting, Giorgione's 'Fête Champêtre' beautiful, and Millet's 'Gleaners,' or the portrait of an old woman by Rembrandt, sublime.¹ He thought the distinction unmeaning in natural scenery, but able to be applied to human beings; and on being pressed for the principle of his application, suggested that by 'beautiful' he meant what might be called the visibly or sensuously attractive, while the 'sublime' would be possessed of "other important qualities, often more important than beauty, sometimes perhaps moral, yet regarded somehow æsthetically". Another friend said that he should never spontaneously use the word 'sublime' of artistic beauty, but might apply it to manifestations of the destructive power of nature on a great scale.² A third, a painter, considered that 'sublime' was not an adjective naturally applicable either to art or to nature, but only to certain human qualities, as, for instance, in the phrase 'sublime egotism,' but that if a subject had to be found for it elsewhere, it would always be something describable as³ 'removed' or mysterious, especially objects seen under a strange light. In the second of these answers only was there any word of size or strength, and there with an anomalous qualification. Nor do I find any notion of size or force in many of the poetical expressions that seem to me to be most 'sublime,' that is to produce positive feelings of uplifting or self-expansion only by the mediation of a negative feeling of hostility or menace. Such expressions are: that of the dying Hippolytus, *κεκαοτέρηται τᾶμα*, the complaint of Helen:—

οἷσιν ἐπὶ Ζεὺς θῆκε κακὸν μόρον, ὥς καὶ ὀπισσῶ
 ἀνθρώποισι πελώμεθ' ἀοίδιμοι ἐσσομένοισιν
(Il., vi. 358)

¹ Cf. Ruskin (*Mod. Painters*, iv., 2): "Sorrow and old age are both sublime".

² Cf. Ruskin (*Mod. Painters*, i., 40): "Greatness of suffering or extent of destruction".

³ Cf. Ruskin (*Mod. Painters*, i., 40): "Wherever the mind contemplates anything above itself".

where it is not at all to the power of Zeus that my notion of sublimity attaches.

'Beauty that is no stronger than a flower,' 'old unhappy far-off things,' the first stanza of 'Tears, Idle Tears,' have all, to me, some sublimity; and so, I suppose, to the poet has the meanest flower, so long as it gives him thoughts too deep for tears. But my difficulty comes out most clearly with respect to Mr. Bradley's chief instance, the incident which on page 44 he quotes from Tourgénéff:—

I was on my way home from hunting, and was walking up the garden avenue. My dog was running on in front of me.

Suddenly he slackened his pace, and began to steal forward as though he scented game ahead. I looked along the avenue; and I saw on the ground a young sparrow, its beak edged with yellow, and its head covered with soft down. It had fallen from the nest (a strong wind was blowing, and shaking the birches of the avenue); and there it sat and never stirred, except to stretch out its little half-grown wings in a helpless flutter.

My dog was slowly approaching it, when suddenly, darting from the tree overhead, an old black-throated sparrow dropped like a stone right before his nose, and, all rumped and flustered, with a plaintive desperate cry flung itself once, twice, at his open jaws with their great teeth.

It would save its young one; it screened it with its own body; the tiny frame quivered with terror; the little cries grew wild and hoarse; it sank and died. It had sacrificed itself.

What a huge monster the dog must have seemed to it! And yet it could not stay up there on its safe bough. A power stronger than its own will tore it away.

My dog stood still, and then slunk back disconcerted. Plainly he too had to recognise that power. I called him to me; and a feeling of reverence came over me as I passed on.

Yes, do not laugh. It was really reverence I felt before that little heroic bird and the passionate outburst of its love.

Love, I thought, is verily stronger than death and the terror of death. By love, only by love, is life sustained and moved.

Here the words greatness and force seem only applicable with some strain. The sparrow is small; its utmost efforts, regarded as force or power, are contemptible; it is crushed without effort. If anything here exhibits greatness which can be construed as a sign of power, it is the dog: "What a huge monster it must have seemed"—indeed he has much in common with the blind forces of nature and other usual instances of sublimity quoted by Mr. Bradley: "The sublimity of Behemoth and Leviathan . . . lies in the contrast of their enormous might with the puny power of man". The sparrow has none of these qualities, but it has what Mr. Bradley calls "moral force". But if we are to take words so metaphorically as this, is there anything that may not be argued to be sublime? We speak of 'very great' beauty, and 'a very powerful' attraction, though plainly neither of

these alone could be, at least for Mr. Bradley, sublime;¹ while the sparrow plainly has some quality that can be so described, but that is, surely, not power, but extraordinary value combined with weakness and failure. And surely, in thus naming what we admire in him we should be characterising it much more essentially, should be more truly describing the causes of our admiration than by using words like size and force which relate it to such strange fellows as Behemoth and Leviathan.

Nor, to return for a moment to the former question and apply it to this instance, can I detect that in first hearing of the sparrow I am checked, baffled, stupefied, repelled or menaced. These feelings are rather excited by the dog and those intolerable processes of blind or living nature which he represents. Yet with the dog, or the ravening principle, I do not notice myself at any subsequent stage to be brought into feelings of union. What first repels us in the story continues to repel us to the last, and what ultimately we love and reverence had barely to be described to excite those feelings. It may be urged that such analysis misrepresents what is really one complex state of mind, and that it is the whole story which, like any other tragedy, is sublime, or, in other words, both repels and attracts us. But I do not think that the repulsion is necessarily prior, I do not think the story as a whole is essentially to be described as power signified by size, and, if we are told to distinguish in our complex state of mind separate stages of repulsion and attraction, we are not only allowed but bound to point out that it is separate elements in the story which are repulsive and attractive.

If any purpose is to be served by a concept which classes together for æsthetic purposes the sparrow, Behemoth, and a rainbow, it seems very necessary to make these further distinctions.

II.

For myself, so far, I should conclude that some things beautiful are also large, some are disturbing or checking in

¹ Ruskin, indeed, says (*Mod. Painters*, i., 40) that there is perhaps no desirable quality of a work of art which, in its perfection, is not in some way or degree sublime, though this of course is scarcely consistent with what he says elsewhere. Thackeray must have held the same view when he said of Pope (*English Humourists*), "The shafts of his satire rise sublimely," and called the concluding lines of the *Dunciad* "the very greatest height to which his sublime art has attained". I believe also that Ruskin describes as sublime the donkey in Tintoretto's 'Flight into Egypt' at the Scuola di San Rocco, but this passage I have been unable to recover.

their effect upon us, and some are both. But the sense of being checked, baffled, stupefied, repelled or menaced, which seems the most generally accepted mark of sublimity (Herder, perhaps, being the principal dissentient), attaches, so far as I can understand, to those beautiful objects only which, in spite of their beauty, are represented as having a hostile relation to the human will (*cf.* Schopenhauer: *Die Welt als Wille und Vorstellung*, iii., § 39). In all such cases an effort is required to throw off our instincts of self-preservation and enjoy what is beautiful in the object for its own sake.¹

In the case of a storm we are repelled by its destructiveness, attracted by its splendid strength. In the case of a tragic hero we may be repelled by his sufferings or their causes, attracted by the fortitude with which he bears them or the constancy with which, like the sparrow, he encounters them in obedience to love or duty. Looking at the storm the æsthetic imagination overcomes human fears; looking at Prometheus it sees that he has overcome pain and it shares in his victory.

In both cases we sympathise with the sublime object, but while the storm perhaps at first repelled us, neither Prometheus nor the sparrow ever did, but something else, the vultures or the dog. It is only before we have imaginatively identified ourselves with the storm that we think of its inconvenience; Prometheus on the other hand is a good neighbour, and only when we have identified ourselves with him does the inconvenience begin. We sympathise with the storm though it inflicts pain, with Prometheus though he feels pain, though he faces the storm.

Here we already seem to have two species of so-called sublimity which are essentially different. If one be that of Prometheus and the other that of the Caucasus, a question at once arises whether there be not a third kind which might be called that of Brutal Violence. Mr. Bradley mentions among sublime things "Fate or Death . . . imagined as inevitable, irresistible, 'ineluctabile fatum'". But such impersonations, with the Æschylean *Κράτος καὶ Βία*, and the Miltonic Sin and Death, belie his description of the sublime and differ from the two species we have already distinguished in one important respect. Though they are æsthetic presentations of power in a repulsive form, the negative stage of our feel-

¹ Mr. Bradley in showing that his sublime need "show no hostility to sense: e.g., a sublime lion," surely does not cover the whole ground. Though it does not hurt us to recognise a lion we can only recognise it as hurtful. (The italics are mine.)

ing is not followed by a positive one consisting in a feeling of union with them. Such objects are generally personifications which combine the havoc of blind natural forces with the conscious choice of a man, for then we both fear their works and loathe their feelings. But some natural powers, such as poverty and pestilence, which are destructive but not easily picturable as delighting in their office, may be represented in this light without direct personification. But if an object be regarded as wholly repulsive, can it be accompanied by those feelings of elevation which all allow to be connected with sublimity? Kant tells us that it most certainly can.¹ And the importance of this species of sublimity, to which Mr. Bradley would apparently deny the name, is indicated by the fact that, for Kant, who first scientifically discussed the matter, it was the only one. (*Kritik der Urtheilskraft*, § 23 *et seq.*) He was undoubtedly mistaken in thinking this the only form of "sublimity," the only class, that is, of objects æsthetically approved though involving a preliminary negative attitude. And he undoubtedly differed from our modern taste, if he was able to regard in this light of irreconcilable hostility many of the natural objects he instances, such as mountains and cataracts. But this mistake and this difference can be shown historically to have been almost inevitable. He was, I think, right in maintaining the existence of a class of objects inspiring awe through hostile size or power, which yet, without reconciling us to themselves, arouse in us feelings of 'exaltation or even rapture'. And though his account of this hostility was inadequate, his description of our emotions is I think true. It is, according to him, just because the object is in one way or another hopelessly hostile to us, that we are thrown back upon ourselves, to find in our own minds or hearts powers as unyielding as these gigantic adversaries. It is we who are sublime; and only, as he says, 'by a certain subreption' do we attribute the quality to those external objects on whose stimulus we become advised of our own high gifts and destinies (§ 27). Our pleasure here is the joy of battle: the contemplation of the heavens is mathematically sublime because nothing less than infinity is the worthy antagonist of our reason, while 'Fiat justitia, ruat coelum' might serve as motto for the sublime of power.

Kant is dealing with natural sublimity. In art the sublime

¹I have excluded from consideration Kant's early "Beobachtungen über das Gefühl des Schönen und Erhabenen" where he uses the concept loosely, dividing it into "Schreckhaft, Edel, Prächtigt".

of this kind is helped to its effect on us by the exhibition of its effect on those characters to which it is the foil.

Regarding the hateful and irresistible forces which have chained Prometheus, we more readily recall our own superiority, our right and duty to despise them, by the example of the hero who does despise them.

If then we take the main points in Mr. Bradley's account to be:—

- (1) Exceeding size or power, which causes in us
- (2) First, a negative state of being checked or repelled but
- (3) later, a rush of self-expansion or uplifting, which last feelings are
- (4) positive feelings of union with the object,

we may admit that on some occasions all these requirements are fulfilled; and these would, perhaps, be usually, though not always, considered typical instances of sublimity. But there are several reputable candidates for the title:—

- (a) Objects satisfying 1, 3, 4, but not necessarily 2, *e.g.* rainbow, mountain.
- (b) Objects satisfying 2, 3, 4, but not necessarily 1, *e.g.* old beggar of Rembrandt.
- (c) Objects satisfying 2, 3, but not necessarily 1 or 4, *e.g.* a viper, Poverty personified.
- (d) Objects satisfying 1, 2, 3, but not necessarily 4, *e.g.* Fate, Iago, Earthquake.
- (e) Objects satisfying 1, 2, 3, 4 (Mr. Bradley's Sublime, *e.g.* a hurricane (?)).

Only 3 seems to be constantly present; and 3, being a general characteristic of æsthetic appreciation, is always in some degree an effect also of beauty, in which case moreover it is accompanied by 4.

While then 3 is constant, it will be noticed that where 2 is absent we naturally and necessarily have 4 present, but where 2 is present we may or may not find 4. This depends upon the ambiguity already indicated in 2. The negative feeling (2) is sometimes one of dislike for the objects' effect on humanity as in the viper and Iago, in which case we lack positive feelings of reunion with them as in (c) and (d). But sometimes the negative feeling (2) is a shrinking from the objects' sufferings as with the beggar, Prometheus or the sparrow, and then we certainly have the positive feeling as in (b). But when we shrink from an object's suffering we can hardly be imagining it to possess 'unmeasured' or incomparable force. So if we have 1 we can only have 2 in the sense of disliking the objects' effects, and if we have 2 in this sense we cannot easily have 4. That is to say we can

seldom have 1, 2, 3, 4 together. I have however included such a collection under (e) and offered as an instance a hurricane. A hurricane is powerful, its visible effects may be awful, we may be uplifted by seeing it, and this exaltation may consist in a feeling of union with it. But the last possibility is I think not often realised along with the second, that is, if our æsthetic object is the hurricane as repulsively destructive; or, in other words, once more, 2, in the sense of disliking an object's effects is incompatible with 4. This at least is certainly so when the object is human, for then harmfulness is cruelty and can scarcely be overlooked in our sympathy with power.

(a) Appears to be the class alone or mainly recognised by "Longinus,"¹ Addison,² Home,³ Payne Knight,⁴ Herder,⁵ Byk;⁶ (b) by Schopenhauer;⁷ (c) by Burke;⁸ (d) by Kant,⁹ Coleridge,¹⁰ Wordsworth,¹¹ De Quincey¹² (but see below); (e) by Hegel,¹³ Bradley.

There are further curious differences of opinion as to the kind of object in which the desired conditions can be realised. Some of these I have already instanced; Kant seems to think only in nature; Schelling, best in art; Lamb (*Specimens of Dramatic Poets*, vol. i., p. 284), 'in the heart of man; in the actions and sufferings of the greatest minds'.

Hegel would restrict sublimity to one unique object, the Absolute. At first his theory seems like Kant's; but he does not believe that sublimity can be purely mathematical,¹⁴ and he finds it not in nature, but in Hebrew poetry. For the Psalmist chooses out all the great and glorious things of the earth to humble them before that almighty and invisible One to whom alone is the glory. Sublimity is, according to Kant, to be reminded by great things of our own worth; according

¹ Esp. chap. xxxv.

² *Spectator*, Numbers 285, 412, etc.

³ *Elements of Criticism*, chap. iv.

⁴ *On Taste*, pt. iii., chap. i., § 19.

⁵ *Kalligone*.

⁶ *Physiologie des Schönen*, cf. Seidl, *op. cit.*

⁷ *Loc. cit.*

⁸ *The Sublime and Beautiful*, pt. ii., esp. § 2.

⁹ *Loc. cit.*

¹⁰ *Biog. Lit.*, ed. Shawcross, vol. ii., pp. 225-226, 309. *Letters*, ed. E. H. Coleridge, p. 228. "Notes on Coleridge's marginalia to *Kalligone*," by Shawcross in *Notes and Queries*, 28th October, 1905. *Letters from the Lake Poets*, p. 322.

¹¹ *The Recluse*. The passage beginning "Stern was the face of Nature". *Letters*, *op. cit.*, vol. ii., p. 250. D. Wordsworth's *Journals*, ed. Knight, vol. i., p. 195; ii., p. 209.

¹² *Works*, ed. Masson, vol. x., p. 395.

¹³ *Ästhetik*, II., i., 2 B.

¹⁴ *Encyclopädie*, § 94. 'We must abandon the unending contemplation (of infinite space) not however because it is too sublime, but because it is too tedious.' Cf. § 104.

to Hegel by their annihilation, of Omnipotence. Coleridge, Wordsworth, and their disciples seem to agree with Kant or Hegel according as they are speaking of nature or poetry (see above). Hegel further subdivides his own concept into a positive or immanent and a negative or transcendent sublime, which latter alone, for him, strictly deserves the name, though the former more resembles Mr. Bradley's in admitting a reconciliation not only of our minds but of finite natural objects with the overwhelming Absolute.

It is on a review of contradictions and cross-distinctions such as these that we are ready to say with Signor Croce¹ that the concept has no philosophic value; it is only one of those inadequate classifications which can be stretched and multiplied indefinitely, for the infinitely complicated gradations of good and bad which are life. "Everything," he concludes, "is sublime which ever has been or shall be so called." But this is either the suicide of philosophy and of criticism or the scornful gift of the wise to stupidity and idleness. For though only the philistine believes that what is individual can be exhausted in a formula, it is also he alone who thinks that the application of thought to life is unprofitable. It is better to make inadequate distinctions than none; and when Croce, applying his doctrine, tells us that "Dante's *Farinata* is æsthetically beautiful and nothing but beautiful; if his will appear sublime, if Dante's presentation of him, by its genius, appear sublime . . . these are not æsthetic considerations," we feel that the best is indeed the enemy of the good. Because Dante's *Farinata* can be fully described by Dante alone, shall we say that all he has in common with Milton's Satan, which is not shared with Sancho Panza, cannot be indicated to any purpose of æsthetic criticism? On this point Mr. Bradley seems convincing.

Which then of all suggested accounts of sublimity seems the best? Which preserves the essential truth of every theory while avoiding the inconsistencies it may have with the others or with itself?

I am bound to confess that though I was carried away by hearing Mr. Bradley's lecture, and am still unsettled when I read it, it is the analysis of Hegel which seems to me best to fulfil these conditions and to answer my æsthetic experience. I have shown the difficulty I find in Mr. Bradley's demand that the marks 1, 2, 3, 4, should all be realised in the Sublime, because 2, in the only sense in which it is compatible with 1, is incompatible with 4. Yet Hegel seems to make the same

¹ *Estetica*, ch. xii., pp. 103, 107.

demand. But he makes its satisfaction possible by limiting sublimity to God as presented in Hebrew poetry. The unique character of this object is that while its power is infinite (1), and while the effect of this power in crushing our sensuous individualities is naturally repulsive to us (2), yet, since its goodness or worth is no less superior to ours than is its power, we are uplifted by the spectacle of its victory (3), and triumph spiritually in its annihilation of what we recognise to be, in the end, no more adequate to our true selves than to it (4). We need only extend this formula by the recognition that it is satisfied in all tragedy, and I believe we shall have an adequate account of the sublime.

It seems to me to gather up the fragments of truth scattered in 'Longinus,' Kant, Schopenhauer, Coleridge, Nietzsche, who does not, I think, use the word 'erhaben' in this connexion, and others. Since by its main contention nothing is truly sublime but the Absolute, we might define sublimity as the beauty of the Absolute; for the pantheistic presentation of a good simply affirming and rejoicing in individual lives is covered, with reservations upon its inadequacy, by Hegel's 'immanent sublime'.

So far then as Mr. Bradley maintains that nothing is sublime which does not suggest the loss of finite life as the gain of the infinite, and that consequently all sublimity is on the border-line between æsthetic and religious experience, I find myself in agreement with him. But this plainly is not the common use of the word, in accommodating himself to which, by eliminating the necessity of hostility, I cannot help thinking he has served confusion. For in this its vulgar usage, deriving through Boileau from the notions of 'Longinus' as to the Grand Style, it is hard to think of 'Sublime' as a precise concept worthier of scientific definition than any vague interjection expressing æsthetic approval.

Many of the most expressive of these are mere slang, but therefore perhaps more respectable than 'Sublime' which in this sense is almost entirely a dictionary-word invented by critics and translators, adopted by popular philosophy as loose enough to fit the most opposite theories.¹

It seems to me that the current contrast of sublime and

¹ Akenside, for instance, seems to have modified his already sophisticated *Pleasures of Imagination* out of deference to the imaginative psychology of Burke. In 1744 the First Book speaks of "three illustrious orders . . . the sublime, the wonderful, the fair". In 1757 they are only two.

beautiful is really a combination of two more fundamental and precise distinctions. First there is the distinction between the beauty of things obviously congenial to us and that of those which *prima facie* have a hostile relation to the human will. This is something like the difference between sad and glad modes of beauty which Mr. Bradley warns us not to confuse with that between beauty and sublimity.

Crossing and confusing this is a distinction between objects whose 'beauty' is the expression of valuable activities with which we imaginatively endow them, and objects whose 'beauty' is merely the symbol of the valuable activities they stimulate in us. The Melian Aphrodite, for instance, seems to embody all the divine activities of the lover, while even that of Giorgione hardly aims beyond presenting the most divinely lovable of women. Since this distinction, though very necessary to be minded by the critic, is not often explicitly recognised, and has not so far as I know acquired a terminology, it is perhaps useful to elucidate it by examples.

The two methods in question may be called for brevity the intrinsic and the extrinsic treatment; the first taking pleasure in things for what they are, or are imagined to be, for themselves, the second for their effect upon some other, probably the artist. The distinction is perhaps clearest where the subject matter is human. Children have of necessity been treated far more often 'extrinsically' for their 'sublime,' pathetic, or amusing effect upon the grown-up world, than 'intrinsically' for their own feelings. There is always, too, a natural tendency, among all but the most imaginative artists at their most imaginative moments, to treat the other sex from the extrinsic point of view. The conception of woman in the poets has ranged from the pretty to the 'sublime'; she has been regarded as man's desirable playfellow—*τὰς παρθένους οἶα γελᾶντι*, as the domestic helpmeet for him, as the resistless fate 'to win him soon to hell,' as an inspiring divinity, as 'nobly planned to warn, to comfort and command,' but far less often as 'a spirit still,' with its own views and wants, quite other perhaps than to be enjoyed or worshipped, but damning or commanding incidentally in pursuit of its proper purposes. Women's portraits of men have of course been no more successful; Charlotte Brontë's men may be sometimes sublime and are sometimes ridiculous, but they are never intrinsically alive like her heroines. The Venos of Melos, Nausicaa, and Andromache (if we assume their makers men), Alcestis and Hecuba, many of Shakespeare's women, and some of Velazquez', Browning's, and Meredith's, together with Swinburne's Althæa, are examples

of this intrinsic treatment; within the limits of which we can again traverse the whole scale of feeling from the bird-like joy in life of "Suis-je, suis-je, suis-je belle?" to the immortal longings of Cleopatra.¹

But this difference of treatment is no less vital, if subtler, when the artist is dealing with animal or inanimate nature. Swinburne in his 'Seamew' (*Poems and Ballads*, iii.) treats both intrinsically:—

When I had wings, my brother,
Such wings were mine as thine.

When, loud with life that quakes,
The wave's wing spreads and flutters,
The wave's heart swells and breaks.

A somewhat ludicrous example of purely extrinsic treatment is Pomfret's 'Choice'; the more usual method of regarding nature is compounded of the two, as in Wordsworth's daffodils or Marvell's "Green thought in a green shade".

This distinction then of intrinsic and extrinsic cuts across that other of hostile and congenial. When a thing naturally hostile to the human will is regarded solely from the natural point of view of that hostility, the only possible æsthetic result is the sublime as Kant understood it. Its very monstrosity stimulates to self-consciousness that in us which is invincible. If such a thing, on the other hand, could be imagined simply as possessing valuable activities, that is if we were simply unaware of its hostility, it would be purely beautiful. But if the second attitude were mediated by the first, if it cost us an effort to sympathise against our interests, we might have the sublime as understood by Mr. Bradley, in which the final positive stage is less a consciousness of our own high destiny than one of union with the object; a revelation of the infinite not in us but in it.

Similarly an object friendly to human purposes, if regarded for its own activities, gives the ordinary type of beauty, which occupies a middle position between that of things hostile and that of things treated as themselves dead but by their pleasant uses stimulating activity in us.

There remains the case of a person congenial but voluntarily suffering terrible things. Extrinsically he is merely a harrowing spectacle, or, if he is also beneficial, the two qualities seem rather compounded in what is a kind of

¹ Thus, curiously, one of the few places where Dante ventures upon an intrinsic treatment of Beatrice is also one of the few where he stoops from a "sublime" to an almost playful tone (*Paradiso*, x. 61).

pathos, than combined to any new effect ; intrinsically treated we sympathise with his heroism, and here Mr. Bradley's demands for sublimity are satisfied if he is right in classing suffering innocence as a form of power or force, and if we note that what we sympathise with is not exactly what repelled us. Hegel's formula seems to me to fit the case better ; what is sublime is the ability to triumph in one's own destruction.

Since the word Sublime will no doubt continue to be used outside the precise Hegelian sense, I should wish to confine it to the æsthetic aspect of those objects which are naturally hostile to humanity, and to classify such objects further according as there is ultimately a sympathetic union with their activities or only a reaction in the recollection of our nobler faculties. Plainly where there is considerable hostility there will most often be considerable power, but where there is no hostility there need be no repulsion.

If however the element of power and greatness turns out to be that which most people feel essential for 'sublimity,' the word must of course be so applied ; and I should then desire to urge that though a very powerful thing may easily be menacing and repulsive, this is purely incidental to its power which may just as easily be a pleasure both to wield and to contemplate.

Nothing has so much hindered the clearance of the confusion and obscurity besetting this notion as the shifting character of its content which must, by its very nature, vary with the artistic fashion of the day.

Sublimity in the loose sense is not merely the unfamiliar beauty which is romance, the use of things, hitherto supposed intractable for that end, to express the goodness of life ; it is rather beauty discovered in what bears a definitely hostile relation to our purposes or existence, the revelation of a goodness even in the monstrous and the terrible,—their joy in their own lives, a symbol of our joy in ours, or, at least that supreme function, the quintessential redemption of evil, to reveal to man his own heroism.

Many such things—death, pain, despised love, are hardly likely by any freak of fashion to become agreeable to the mass of mankind. But many objects that strike one age mainly by their mystery and strangeness, their contempt and cruelty for our comfortable uses, become to the next such familiar objects of æsthetic pleasure, perhaps also so actually tamed and confined by the applications of science, that most men are unconscious of any effort in regarding them as simply beautiful.

It is a fact significant, if not final, in the history of our concept that it first came into its present prominence in the philosophy of a time perhaps unrivalled for its rapid reversal of artistic orthodoxy. A whole new world was being conquered for æsthetic satisfaction, but much of it was so Gothic, so rude, so shocking to the polite, the regular and the pastoral,¹ that men hesitated to call it beautiful, could hardly believe, indeed, that they felt it to be so.

My main conclusion then is that nowhere in the æsthetic realm shall we find a content for the conception of Sublimity so essentially differentiated as to justify its elevation into a species co-ordinate with Beauty, unless in those tragic conflicts or religious intuitions which present the Absolute as terribly overwhelming all finite pretension, while eliciting, for that very act, the enthusiasm of all in us that is immortal.

Consequently, I would hold that the wider popular use of the term may be analysed as hostility to our will in an object treated extrinsically, so that our artistic satisfaction is not in its activities but in our own. Incidentally I suggest that great and powerful things like waterfalls, unless definitely presented as hostile, are immediately sympathetic, and that their inclusion by Kant as sublime, that is as only mediately so, was due to a temporary difficulty of the romantic transition, a difficulty in abandoning the extrinsic for the intrinsic treatment of nature, which encouraged him to combine the painful of Burke with the grand of Addison and "Longinus".

¹ Cf. Hutcheson, *An Inquiry into the Original of our Ideas of Beauty*, third ed., 1729.

V.—DISCUSSIONS.

SOME EXPLANATIONS IN REPLY TO MR. BRADLEY.

MR. BRADLEY'S very courteous examination in the April MIND of some of the views advocated in my *Principles of Mathematics* calls for some explanations, not by way of polemic, but by way of elucidation. I shall not attempt, in what follows, to give the grounds for my views, since that would require a volume, but only to state, as clearly as I can, what they are and what they are not, how far I admit the justice of Mr. Bradley's criticisms, and how far I believe that they can be answered.

I hold, as Mr. Bradley states, that mathematical truth is wholly and ultimately true, and that the contradictions with which it has appeared to be infected can all be removed by patience in distinguishing and defining. These contradictions are broadly of two kinds (not sharply distinguishable), namely those which are specifically mathematical, such as the traditional difficulties concerning infinity, and those which, though relevant to mathematics, belong properly to general philosophy. It is especially the second kind of difficulties with which Mr. Bradley is concerned. It has seemed to me that these difficulties were all connected with a certain doctrine as to the nature of relations which, though widely held, has been, so far as my knowledge goes, more explicitly and effectively advocated by Mr. Bradley than by any other philosopher. I shall not here repeat my reasons for rejecting this view, but shall content myself with trying to state my own view.

Mr. Bradley finds an inconsistency in my simultaneous advocacy of a strict pluralism and of "unities which are complex and which cannot be analysed into terms and relations". It would seem that everything here turns upon the sense in which such unities cannot be analysed. I do not admit that, in any strict sense, unities are incapable of analysis; on the contrary, I hold that they are the only objects that can be analysed. What I admit is that no *enumeration* of their constituents will reconstitute them, since any such enumeration gives us a plurality, not a unity. But I do not admit that they are not composed of their constituents; and what is more to the purpose, I do not admit that their constituents cannot be considered truly unless we remember that they are their constituents. The view which I reject holds (if I understand it aright) that the fact that an object x has a certain relation R to an

object y implies complexity in x and y , *i.e.*, it implies something in the "natures" of x and y in virtue of which they are related by the relation R . It seems to be held that otherwise all relations would be purely fortuitous, and might just as well have been other than they are, and this, it is thought, would be intolerable.

This opinion seems to rest upon some law of sufficient reason, some desire to show that every truth is "necessary". I am inclined to think that a large part of my disagreement with Mr. Bradley turns on a disagreement as to the notion of "necessity". I do not myself admit necessity and possibility as fundamental notions: it appears to me that fundamentally truths are merely true in fact, and that the search for a "sufficient reason" is mistaken. I can see many ways of defining necessity which will account for its common uses: we may call a proposition necessary when it follows from a proposition known to be true, or when it can be known without empirical evidence, or when what is affirmed would be equally true of any other subject. And whatever meaning of "necessity" we adopt, we obtain, of course, a corresponding meaning of "possibility": a proposition is possible when its contradictory is not necessary. But none of the above meanings of necessity and possibility justify the traditional doctrines as to modality, or the objection which philosophers are apt to feel to a "mere fact". I do not mean to deny that one fact is often deducible from another; but such deducibility is in turn a fact, *i.e.* it has no modal property of necessity not possessed by the facts which it relates.

To return to relations: I maintain that there are such facts as that x has the relation R to y , and that such facts are not in general reducible to, or inferable from, a fact about x only and a fact about y only: they do not imply that x and y have any complexity, or any intrinsic property distinguishing them from a z and a w which do not have the relation R . This is what I mean when I say that relations are external. But I maintain also—and it is here that Mr. Bradley sees an inconsistency—that whenever we have two terms x and y related by a relation R , we have also a complex, which we may call " $x R y$," consisting of the two terms so related. This is the simplest example of what I call a "complex" or a "unity". What is called analysis consists in the discovery of the constituents of a complex. A complex differs from the mere aggregate of its constituents, since it is one, not many, and the relation which is one of its constituents enters into it as an actually relating relation, and not merely as one member of an aggregate. I confess I am at a loss to see how this is inconsistent with the above account of relations, and I suspect that the meaning which I attach to the word "external" is different from Mr. Bradley's meaning; in fact he seems to mean by an "external" relation a relation which does not relate.

The word "implication" occurs very frequently in my writings,

and I am afraid I did not state with sufficient emphasis that, for technical purposes, I was using this word in a technical sense different from its usual sense. For the purposes of symbolic logic, it is convenient to define " p implies q " in the widest manner which will enable us, when we know that p "implies" q , and that p is true, to infer that q is true. The widest meaning of " p implies q " which will secure this is "either p is false or q is true," where the alternatives are to be taken as not mutually exclusive.¹ With this meaning of "implication," it seems plain that the consequences of which Mr. Bradley speaks (p. 180) are not involved.

On the question of implication, there is however a substantial as well as a verbal difference between Mr. Bradley's views and mine. I admit that, in *inference*, we use a relation somewhat different from that which I have defined as implication. When we infer, the premiss and the implication are known to us first, and are the means by which we come to know the conclusion. This requires that premiss and conclusion should be so related as to enable us to *perceive* the implication, and this in turn requires some formal relation between premiss and conclusion such as those considered in the rules of formal logic. But this formal relation is only required in order that we may perceive the implication, and what we perceive when we perceive the implication is that either the premiss is false or the conclusion is true. Thus implication as above defined is still the fundamental logical concept, and what is further required for inference is psychological, namely such conditions as shall enable us to perceive the implication without knowing first whether the conclusion is true or the premiss false. The view advocated by Mr. Bradley, that what can be inferred is always in some sense already contained in the premiss, is one which I cannot accept. I shall return to this point in connexion with negation.

The next question raised is the question whether a term can be related to itself. Here the question is, I think, partly—though only partly—solved by pointing out the sense in which I use the word "relation". For my purposes, any proposition of which x and y are constituents asserts a relation of x to y , and the proposition which results from replacing x and y by z and w asserts the same relation between z and w . Thus in order to be able to assert that a term may be related to itself, it is only necessary to show that a term may occur twice in one proposition. For example, " $x + y = 4$ " asserts a relation between x and y , and since $2 + 2 = 4$, this relation is one

¹I have stated this with, I think, the necessary clearness, in the *American Journal of Mathematics*, vol. xxx., p. 245: "' p implies q ' is to mean ' p is false or q is true'. I do not mean to affirm that 'implies' cannot have any other meaning, but only that this meaning is the one which it is most convenient to give to 'implies' in symbolic logic." In the *Principles*, I defined disjunction in terms of implication, rather than *vice versa*; but this is merely a question of taste and convenience.

which 2 has to itself. Mr. Bradley would, no doubt, deny that the self-same term, without any diversity, could occur twice, either in the same proposition or in two different propositions. This question is connected with the fundamental question as to the nature of relations. Mr. Bradley invites me to say that a term is diverse from itself, on the ground that "it is all one to the term what its relations are" (p. 181). There is here an appeal to the law of sufficient reason, and an assumption that, if there is nothing in the nature of a term to compel it to have one relation to itself rather than another, it must have both relations to itself or neither. What was said above about necessity seems to cover this case: I should say that it is a fact that every term is identical with itself and not diverse from itself. As for the assertion that "diversity is required for a relation" (p. 181), I can only say that no reason is alleged for holding this view, and that for my part I see no reason to hold it.

As regards what Mr. Bradley says about the idea of "class," I find myself very largely in agreement with him. The theory of classes which I set forth in my *Principles* was avowedly unsatisfactory.¹ I did not, at that time, see any way of stating the elementary propositions of Arithmetic without employing the notion of "class". I have, however, since that time discovered that it is possible to give an interpretation to all propositions which verbally employ classes, without assuming that there really are such things as classes at all.² Apart from other contradictions, the fact that a class, if there is such a thing, must be both one and many constitutes a difficulty. That it is meaningless (as Mr. Bradley contends) to regard a class as being or not being a member of itself, must be assumed for the avoidance of a more mathematical contradiction; but I cannot see that this could be meaningless if there were such things as classes. The theory that there are no such things as classes avoids at once the difficulties raised by Mr. Bradley and the difficulties with which I endeavour to contend in the *Principles*. The general contention that classes are a mere *façon de parler* has, of course, been often advanced, but it has not been accompanied by an exact account of what this manner of speaking really means, or by an interpretation of arithmetic in accordance with this contention; and such an accompaniment was essential before a philosophy of mathematics could dispense with classes.

On the subject of zero quantity (as opposed to the number 0), I am no longer prepared wholly to defend the view which Mr. Bradley has criticised, but the correction which it requires, while avoiding

¹ "In the case of classes, I must confess, I have failed to perceive any concept fulfilling the conditions requisite for the notion of *class*. And the contradiction discussed in chapter x. proves that something is amiss, but what this is I have hitherto failed to discover" (*Principles*, pp. v-vi).

² I have explained briefly how this is to be done in the *American Journal of Mathematics*, *loc. cit.*

the difficulties (I can hardly admit that they are contradictions) emphasised by him, introduces no change of philosophic importance. The question of the definition of the quantitative zero now seems to me one of mainly technical interest, not one of interest to philosophy.

The subject of negation, on the contrary, is of the highest interest to philosophy, and I fully admit that it calls for more notice than I have given it. I do not think, however, that negation offers any *special* difficulty in the logic which I advocate; indeed, I am led to hesitate, not by being unable to think of any theory of negation which would be tenable, but by the fact that two different theories appear *prima facie* equally tenable. In a negative judgment, we may place the negation either in the act, or in that which is judged. In the first case, there will be no such thing as believing a negative proposition; there will merely be disbelief in positive propositions. In the second case, there will be both positive and negative propositions, and negation will, in the case of negative judgments, be part of the content of that which we believe. There are no doubt arguments to be found which would decide between these two theories, or perhaps in favour of some mediating theory. Meanwhile, I cannot as yet find any fundamental objection to either view.

Mr. Bradley's contention that such notions as "a man" or "any man" contain an element of negation is one which I cannot admit. "'A man,'" he says, "appears to assert one instance of man and to deny more than one man" (p. 183). It is of course undeniable that "a man" *implies* the denial of more than one man; but it does not follow that this denial is part of its content. Such a view involves the assumption—implicit in many such arguments—that all inference is essentially analytic, that whatever can be inferred from a proposition is necessarily part of that proposition. This view appears to me to be erroneous, and to be connected with the theory of relations upon which most of my disagreements with Mr. Bradley depend. Exactly similar remarks apply to "any," "every," "all," and "some". In all these cases, the negation appears to me to be merely implied, and to be no part of the content.

It is, of course, highly probable that there are difficulties in my position which I have failed to appreciate; meanwhile, the chief hope of philosophical progress seems to lie in the endeavour to discover clearly the exact points of difference between divergent views. For example, it appears self-evident to Mr. Bradley that a relation implies diverse terms, whereas to me this appears by no means self-evident. Such a state of things is eminently unsatisfactory, and seems to lead to a deadlock. In favour of the premisses from which I start, there is, however, a kind of inductive argument: they allow much more truth to science and common sense than is allowed by the opposite premisses, and they do not require us to "condemn, almost without a hearing, the great mass of pheno-

mena". I should not lay stress upon this argument, but for the fact that, where there is a dispute as to fundamentals, more strictly philosophical arguments become impossible. The progress of philosophy seems to demand that, like science, it should learn to practise induction, to test its premisses by the conclusions to which they lead, and not merely by their apparent self-evidence. To reject such a test is to assume—what none but a philosopher would assume—that metaphysical theories have a greater degree of certainty than the facts of science and of daily life.

B. RUSSELL.

MR. RUSSELL'S OBJECTIONS TO FREGE'S ANALYSIS OF PROPOSITIONS.¹

ACCORDING to Frege² what a Categorical Affirmative Proposition asserts is: Identity of denotation (or Application—*Bedeutung*) with difference of intension (or connotation or 'meaning'—*Sinn*).—Hence we may say *a is b*, which means *a is identical with b* (identical in denotation that is, for it is clearly *not* identical in connotation or intension). But we cannot say *a is a* because here difference of connotation (*Sinn*) has vanished. And we cannot say *a is not-a* because here identity of denotation is impossible. Mr. Russell objects (p. 485) to this theory of Frege's that it will not solve the following three puzzles.

"(1) If *a* is identical with *b*, whatever is true of the one is true of the other, and either may be substituted for the other in any proposition without altering the truth or falsehood of that proposition. Now George IV. wished to know whether Scott was the author of *Waverley*; and in fact Scott *was* the author of *Waverley*. Hence we may substitute Scott for the author of '*Waverley*,' and thereby prove that George IV. wished to know whether Scott was Scott. Yet an interest in the law of identity can hardly be attributed to the first gentleman of Europe."

When George IV. asked whether Scott was the author of *Waverley*, what he wanted to know was, whether the intension ('meaning,' connotation) of *Author of "Waverley"* could be assigned to Scott—i.e., whether identity of denotation could be asserted between Scott and *Author of "Waverley"*. The "first gentleman of Europe" did not want to know whether Scott was Scott—this would have been perhaps more in the style of "Farmer George," with his, "What, what, Young, Young, dead, dead," and his sense of the inexplicability of the fact of the apple being inside the dough in an apple dumpling.

No doubt "*if a is identical [in denotation that is] with b,*" whatever is true of the thing denoted by *a* is true of the same thing when denoted by *b*³—with the obvious reservation that *a is a* does

¹ MIND, 1905, pp. 483, 485, etc.

² See also my *Elements of Logic*, § VI. p. 46, etc., and § XV. (T. & T. Clark, Edinburgh, 1890), my *General Logic*, Part I. § III., etc. (March, 1892), and MIND, 1893, p. 441, etc.

³ I am not quite sure what is meant by "whatever is true of the one is true of the other". Do *the one* and *the other* mean *the one thing* and *the other thing* (as Jevons has it)? Or do *one* and *other* refer to the symbols *a* and *b*? Neither alternative is satisfactory.

not convey the information that *a* has the intension (or connotation) *b*. If we admit *a is a* at all, we must either (1) regard the copula as having a different force in this case from what it has in *a is b*, and must point out what this is, or (2) we must hold that in *a is a* it is only *denotational* identity of *a* with itself which is asserted—and it seems hard to understand why any one who ‘asserts’ *a is a* with this intent, should ever want, or indeed be able, to assert anything else.

On these lines we reach the entirely hopeless view that any

$$S \text{ is } P = \begin{cases} S \text{ is } S \\ P \text{ is } P \\ S \text{ is not } P \end{cases}$$

as Lotze does—*i.e.*, we divest the Categorical Affirmative of the form *S is P* of coherence and of meaning. It is, I think, of the essence of Frege’s theory (and mine) that *S is S* (*a is a*) is valueless as a ‘Law’ of Thought or of Logic. That it is so is perhaps sufficiently shown in the ill-success of Lotze’s determined, elaborate, protracted, yet absolutely futile effort to exhibit it as a fundamental logical principle of the Logic which uses propositions of the form *S is P*.

“(2) By the law of excluded middle, either ‘*A is B*’ or ‘*A is not B*’ must be true. Hence either ‘the present King of France is bald’ or ‘the present King of France is not bald’ must be true. Yet if we enumerated the existing things that are bald and then the existing things that are not bald, we should not find the present King of France in either list [*i.e.*, The present King of France is not an existing thing that is bald nor an existing thing that is not bald, we cannot ‘identify’ the ‘present King of France’ with any ‘existing’ thing whether bald or not bald]. Hegelians, who love a synthesis, will probably conclude that he wears a wig.”

Certainly nothing of which Existence is predicated can without contradiction be denotationally identified with anything of which Existence (in the same sense) is denied. But if the *A* in *A is B* is the present (*A.D.* 1909) King of France, then that *A* is *A not-A*, and having admitted it, there can be no further difficulty in the way of asserting of it contradictory attributes—since the complex denoting term *A not-A* itself has ‘contradictory’ connotation, and includes elements which together exhaust the universe.

If the present King of France is not (1) a self-contradictory term, then (2) it is assigned to some sphere of predication (“universe of discourse”) in which it occurs—which means that the kind of ‘being’ or ‘existence,’¹ is fixed by the context, by certain further determinations of the subject-term; and if this is sufficiently done with reference to any accepted ‘universe’—*e.g.*, of past time, or of supposition, fiction, or prophecy—there need be no difficulty in choosing between any *B* and not-*B*.

“(3) Consider the proposition ‘*A* differs from *B*’. If this is

¹ I use *Existence* and *Being* as equivalent.

true, there is a difference between A and B, which fact may be expressed in the form 'the difference between A and B subsists'. But if it is false that A differs from B, then there is no difference between A and B, which fact may be expressed in the form 'the difference between A and B does not subsist'. But how can a non-entity be the subject of the proposition? 'I think, therefore I am' is no more evident than 'I am the subject of a proposition, therefore I am,' provided 'I am' is taken to assert subsistence or being,¹ not existence. Hence, it would appear, it must always be self-contradictory to deny the being of anything; but we have seen, in connexion with Meinong, that to admit being also sometimes leads to contradictions. Thus if A and B do not differ, to suppose either that there *is*,² or that there is not such an object as 'the difference between A and B' seems equally impossible."

Considerations similar to those applied in (2) seem to apply in the case of the difficulties raised in (3)—it does no doubt appear self-contradictory to deny *all* 'being' of anything of which we think and speak—we must at least *suppose* a thing or object (with certain attributes), in order to be able to talk about it—even to deny it 'existence' or occurrence in some particular sphere—that is, to deny its possession of certain other attributes. A non-entity for thought, is simply that which is not thought about.

We can think of nothing, speak of nothing, without postulating or assuming both application (or denotation) and intension (*Bedeutung* and *Sinn*) in Frege's sense—without these two elements, significant assertion is always and for ever impossible. Whatever we think of or speak of must be thought of as something and as some sort of something—and every term which is used as Subject or Predicate in a Proposition must have both denotation and intension (as Frege, I believe, holds).

If A and B do not differ, "the difference between A and B" of which we think and speak, is still an object with *Sinn* and *Bedeutung*, with 'being' or 'existence,' and attributes, assumed hypothetically—otherwise how could we deny it? And of course we may quite reasonably decide that A and B do not differ, when A and B have just as little Real Existence (however that may be ascertained) as the 'non-existent' difference between them.

"Is there a difference between A and B?" I ask—*e.g.*, between Fair Trade and Free Trade, between Usefulness and Truth, between those two colour-patterns, between this material and that, between my faith and yours?—I ask for information.—The question: Is there *a difference between A and B*? assumes the possibility or thinkability of such a difference, even though A and B be devoid of Real Existence, and has applicability and intension

¹ I use these as synonyms. [Mr. Russell's footnote.]

² What does Mr. Russell mean by *is*, and what is his distinction between Being (or Subsistence) and Existence?

just as truly as *the shining of the sun at this moment* (when it is shining), *the convenience of the house I am planning to build next summer*, *the best measure of social reform of the next Parliament*. The difference between these is not that in some cases there is denotation and connotation (or intension) and not in others, but that the things denoted and connoted belong to different spheres, regions, contexts, or 'Universes of Discourse'. A great deal of our keenest and most absorbing interest is about 'things' of the 'existence' and (sometimes) of the character of which we are doubtful—but in which we could take no interest at all unless they had *Sinn* and *Bedeutung*, what-ness and that-ness, in some region, and as much Reality as that implies. Dr. Cook's finding of the North Pole does not differ from Sir Ernest Shackleton's approximation to the South Pole in *not* having 'denotation' and intension while Shackleton's achievement has both. Dr. Cook's 'discovery' has them just as much, otherwise we could not have thought and talked about it as we have.

I pass to the difficulties which Mr. Russell finds in the relation between 'Meaning' (Frege's *Sinn*, my intension or connotation) and Denotation (Frege's *Bedeutung*, my denotation or application or applicability), pp. 485, etc.

The difficulties are set forth as follows: "When we wish to speak about the *meaning* of a denoting phrase, as opposed to its *denotation*, the natural mode of doing so is by inverted commas. Thus we say:—

The centre of mass of the Solar System is a point, not a denoting complex;

'The centre of mass of the Solar System' is a denoting complex, not a point.

Or again:—

The first line of Gray's 'Elegy' states a proposition.

'The first line of Gray's "Elegy"' does not state a proposition.

Thus taking any denoting phrase, say C, we wish to consider the relation between C and 'C,' where the difference of the two is of the kind exemplified in the above two instances."

"We say, to begin with, that when C occurs it is the *denotation* that we are speaking about; but when 'C' occurs, it is the *meaning*. Now the relation of meaning and denotation is not merely linguistic through the phrase: there must be a logical relation involved, which we express by saying that the meaning denotes the denotation. But the difficulty which confronts us is that we cannot succeed in *both* preserving the connexion of meaning and denotation *and* preventing them from being one and the same¹; also that the meaning cannot be got at except by means of denoting phrases. This happens as follows:—

¹ What precisely is the meaning of 'one and the same'?

"The one phrase C was to have both meaning and denotation. But if we speak of 'the meaning of C' that gives us the meaning (if any) of the denotation."

Now using Denotation as equivalent to Application (Frege's *Bedeutung*) and Intension or Connotation (Frege's *Sinn*) as equivalent to 'Meaning,' it seems to me that the difficulty here may be quite simply explained.

First, every term used as Subject or Predicate of a proposition has both Denotation and Intension: And what the term *quâ* denotative denotes, is the thing to which it (the Term) applies. And what the Term *quâ* connotative connotes, is those attributes of the thing denoted which are 'meant' by the Term, and which would be given in a Definition of the Term (or description of the thing).

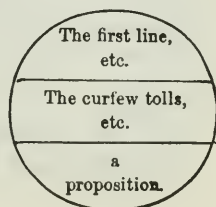
No categorical assertion of the form *S is P* is possible unless S and P have Denotation and Connotation (or Intension)—identity of Denotation and diversity of Connotation. And if S is isolated from its Predicate (which has identical denotation with S) or P from its Subject, S (or P) still has both Denotation and Connotation (*Bedeutung* and *Sinn*). That "the meaning [Connotation] cannot be got at except by means of denoting phrases" is no doubt true, but this does not involve any difficulty, for every 'phrase' (word or words) that can be used as a term in a proposition *must* have Denotation (Application, *Bedeutung*).

But to talk of "the meaning denoting the denotation" seems to me a very awkward way of expressing the obvious fact that it is often by means of the connotation (or intension) of a term that we are enabled to see where it should be applied—to find its denotation (I think this must be Mr. Russell's meaning)—and it is surely not the case that "we cannot succeed in *both* preserving the connection of meaning and denotation, *and* preventing them from being one and the same [= ?]" nor that "if we speak of the 'meaning [connotation] of C' that gives us the meaning (if any) of the denotation". If C is a Term, it has Connotation (or Intension) and Denotation, and the connotation of C is the connotation (not of the denotation of C but) of the Term which *quâ* denotative, denotes the thing to which C applies—the thing of which C is the name; the Connotation of C implies those attributes of *the thing called C* on account of the possession of which it is called C.

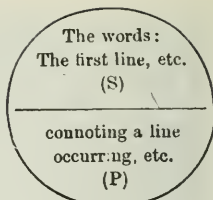
Thus:—

(1) The first line of Gray's *Elegy* (S) is identical in denotation with the line which runs: The curfew tolls etc. (P).

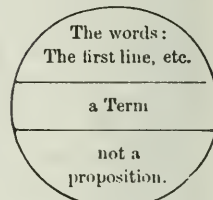
This line (S) is identical in denotation with a proposition (P).



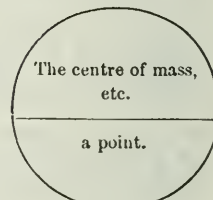
(2) The words: *The first line of Gray's Elegy* connote a line occurring in a certain position in a well-known poem.



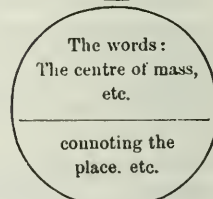
(3) The words: *The first line of Gray's Elegy* are :—
 (identical in denotation with a Term.
 (not identical in denotation with a proposition.



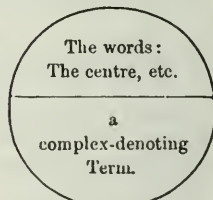
(1) The centre of mass of the Solar System is a point (*is = denotes, or is identical in denotation with*).



(2) The words: *The centre of mass of the Solar System* connote the place in the system which etc.



(3) The words: *The centre of mass of the Solar System* are a denoting-complex (= Complex-denoting Term).



These examples thus examined seem to me to bring out the strength and inevitability of Frege's analysis—in every case we have denotational identity of Subject and Predicate, in intensional (connotational) diversity, though the things identified are not the same in every case. We are concerned with different Subjects and different Predicates.

In (1) the propositions are taken in their ordinary natural sense.

In (2) the Subject-Term is isolated from its original, intensionally-

diverse, Predicate, for the purpose of determining, by a definitional Predicate, the Subject-term's connotation, intension, or description.

In (3) the Predicate states the logical character of the words composing the Subject-Term.

Compare: (1) the first book on the shelf is (= denotes) Aristotle's *Ethics*;

(2) "The first book on the shelf" connotes *the book which occupies the definite position described*.

(3) "The first book on the shelf" is a complex denoting Term.

It conduces to clearness when in any of the above cases we prefix "The words" to the phrase in quotation marks. The quotation marks simply indicate that the words which they include have to be taken as a name of which the *connotation* (or description, grammatical character, etc.) is predicated, and are an elliptical device.

And all the time (as has been pointed out) our Subject-Term, whatever it is, has both Denotation and Connotation—and so has our Predicate-Term, whatever it is; and our *connotes* is resolvable into *is connoting*—and so on. Whatever conundrums are stated or solved, it is impossible to state them or their solutions in any other way.

The denoting-complex (complex-denoting-term) "the first line of Gray's *Elegy*" denotes the line which consists of the words "The curfew tolls the knell of parting day"—and this denoting-complex denotes the line by means of the connotation of the complex, which indicates a certain place of occurrence. It is this connotation of the phrase: *The first line of Gray's Elegy* which is given when we say: "The first line of Gray's *Elegy*" connotes ('means') the line which occurs at the beginning of a certain poem known under the title given.

The *meaning* (propositional force) of the line (which is a proposition) is, the assigning to that which is denoted by *curfew* of the connotation of the predicate: *tolling the knell of parting day* (denotation of Subject and Predicate identical).

Or take the third case: The first book on the shelf is Aristotle's *Ethics*.—The 'denoting-complex' *the first book on the shelf* denotes the volume which has the given title—it denotes (or applies to) the book in virtue of its (the denoting complex's) connotation, which connotation indicates the position occupied by the book. The connotation of this 'denoting complex' is given by saying: 'The first book on the shelf' connotes the book which occupies the position described. Until I know what the phrase 'the first book on the shelf' connotes ('means'), I cannot use that phrase as *denoting* the book referred to.

And 'the first book on the shelf' denotes Aristotle's *Ethics*:—and the connotation of Aristotle's *Ethics* is given by an explanation of *Aristotle* and of *Ethics*.

There is one thing or object denoted (a copy of Aristotle's *Ethics*):

it is referred to by two different phrases, both of which denote that one volume, but denote it by means of different connotations:—

(1) The first book on the shelf.

(2) Aristotle's *Ethics*.

Both (1) and (2) are complex denoting terms.—When “The first book on the shelf” is called a “denoting complex” it is not the connotation of the Term “The first book, etc.” (*i.e.* those attributes of the object denoted by the term on account of which the term is applied to it) which is given, but a description of the logical character of the *Term itself*.

It may be noted that in Mr. Russell's use of *Denoting* (or *Denotation*), the term is confined to words or phrases which include some general name—some name having (in Mill's use of the terms) both Denotation and Connotation; and it seems to him to involve difficulty that connotations should be denoted. But in Frege's view as I understand it (and in mine) whatever can be talked about must be denoted—and we are here expressly talking about connotations. As Mr. Russell says: “Frege distinguishes the *two* elements of meaning (connotation or intension), and denotation *everywhere*” (*italics mine*).

The use of the word *meaning* as equivalent sometimes to *connotation* and sometimes to the *force or significance of a proposition* naturally leads to some want of clearness as between (1) Connotation (or intension) of a term or phrase and (2) Propositional force of an Assertion. It is impossible to detach the ‘meaning’ of a proposition from the denotation of its terms.

Further, according to Mr. Russell, we do not know whether the denoting phrases which we obtain from propositions denote entities or not, until we know whether the propositions are true (p. 490).

This surely is a very awkward position, for how are we to know (on Mr. Russell's principles see p. 485) whether a proposition is true until we know whether its terms denote actual ‘entities’ or not? Is it not indispensable to have some analysis of propositions of the form *S is P* which can be applied to *all* propositions of that form, and some theory of denotation which can be applied to *all* denotative terms, at whatever stage of investigation or certainty? I think Frege's theory does this, furnishing an analysis of propositions which seems to meet all legitimate requirements, elucidating Education and Deduction as well as Assertion. Does Mr. Russell hold that no analysis of propositions or theory of predication is acceptable or applicable unless it provides a Criterion of Truth and of ‘Real Existence’? Or must the truth of all true propositions have been established before any theory of import of propositions can be arrived at?

E. E. C. JONES.

DEFINITION IN SYMBOLIC LOGIC.

THERE are two points in the determination of the nature of definition in Symbolic Logic that have not, I think, been adequately discussed by logicians. These are, firstly, the volitional character of definition and the position that definitions occupy in reasonings, and, secondly, the precise distinction that is to be drawn between the definitions in this discipline and those of a philosophical character. The following considerations may throw some light upon this important question.

It is described by the symbolic logician how there is a necessity for him to start with certain undefinable notions, and with a number of primitive propositions that involve these notions. But in the course of his procedure he makes use of symbols that represent neither undefinables nor primitive propositions: these symbols represent notions whose character is described in terms of undefinable notions. When a further notion is in such a relationship brought before the attention we have what is known as a definition. Thus Peano defines " a is b " and Russell defines negation by reference to their respective undefinables. It may sometimes happen that some or all of the terms employed in a definition are *not* themselves undefinable, but it is always the case that the terms are either undefinables or such as may be defined by means of undefinables. The definition of 'negation,' for instance, may involve nothing but undefinables, or it may involve the term 'proposition'; 'proposition' itself is not an undefinable, but it is definable by means of the undefinable notion of 'implication'. It will thus be observed that in a measure a definition is of the nature of a volition: we determine at the outset that a notion shall be marked off by a certain selection of undefinable notions. Hence it is that Mr. Russell says:¹ "definitions have no assertion-signs, because they are not expressions of propositions, but of volitions". But we must here make a distinction which is of great importance. Definitions of this kind are not *arbitrary* volitions. We may, for instance, define negation by reference to our undefinable notions, but our definition must be such that no contradiction shall be involved when we bring our negative class or proposition into relation with the corresponding positive; our definition of negation must be among other things one that allows

¹ *American Journal of Mathematics*, vol. xxviii., No. 2, art. "The Theory of Implication," p. 176.

of the affirmation "not not- p implies p ". In defining by means of our indefinable notions, though we have a choice, we must choose with a certain end in view, *viz.*, the avoidance of subsequent contradictory statements.

On the other hand, there are certain definitions used in the Calculus that *are* wholly arbitrary. An instance of one of these is given by Frege in his *Begriffsschrift*, page 55. He here gives an 'equivalence' by means of which it is intended to define the right-hand member by means of the left-hand member. Such a definition is an arbitrary one: the expression x on the right-hand might have been taken as equivalent to anything else whatsoever instead of being taken as an abbreviated form of y on the left-hand. (I call these expressions x and y , as the signification of the defining expression is irrelevant to the present argument.) In short, all definitions *are* volitions, but all definitions are not arbitrary definitions.

In the next place it is to be observed that, though definitions in Symbolic Logic are in their nature marked off from assertions, all such definitions may be introduced into reasonings in precisely the same way as assertions may be. This fact is made quite evident by Frege both in so many words and in his method of demonstrating the truth of his 70th proposition.¹ This demonstration as usual is established because the truth of the hypothesis is already known. But what the hypothesis sets forth is the equivalence that has been determined upon in the 69th proposition. That is to say, what we do in the more complicated proofs is to take one of the primitive propositions, or one of the simpler propositions that are derived from them, and to substitute expressions of a complicated character for the symbols employed in such proposition. And it is quite irrelevant whether the substitution made in the hypothesis is of an assertion or of an equivalence that has been willed and accepted. The implication set forth in the consequent necessarily follows in either case.

The nature and treatment of definitions are up to a certain point admirably stated by Frege. Mr. Russell quite clearly points out that definitions are of the nature of volitions, but he does not distinguish, so far as I have seen, between arbitrary and reasoned definitions, and he does not make sufficiently clear how it is that definitions may be treated as assertions. After the declaration of the volitional character of definitions and of the fact that in consequence of this character they have no assertion-signs, some explanation is needed why definitions are treated just like assertions. That Mr. Russell does so treat definitions is seen in many places. For example, in the article on "The Theory of Implication" already referred to, prop. 4·24 makes use of prop. 4·1 in precisely the same way as prop. (3) is used, where prop. 4·1 is a definition. It is indeed possible to say that here the definitions are *not* treated as

¹ *Begriffsschrift*, p. 58.

assertions, but are merely reminders of equivalences that have been agreed upon. But I do not see that anything is gained by speaking of definitions in this way: it is less confusing to hold, as Frege holds, that when a definition is brought forward we have an assertion. And in certain proofs we *must* interpret our definitions as assertions. Frege's 75th proposition (in the *Begriffsschrift*), for instance, cannot be proved unless prop. 69 is known to be *true*. Frege, it may be noticed, signifies by a double assertion-sign those statements that are originally definitions: he uses $\vdash$ —instead of $\models$.

Secondly, between these definitions of Symbolic Logic and those of Philosophy there is certainly a striking difference, but there are also some similarities. As regards the difference, in philosophical definitions we enumerate the attributes that are signified by the name, or we abbreviate this process by referring to the *genus* and *differentia* of the object. Now in this enumeration what we are doing is to refer in the case of external objects to the sensations that we receive from them, and in the case of mental processes to the simple modes of consciousness that are revealed by introspection. Here the ultimates that constitute the elements of our definitions are 'naturally selected'. In Symbolic Logic on the contrary the ultimates at our disposal are ideas that are 'artificially selected'. We are not at the outset limited to a certain set of indefinables, but we make a choice from those available. And subsequently it is from the ultimates thus chosen that we make a selection for the purposes of definitions. Hence it is that Mr. Russell affirms that the distinction between the two kinds of definition consists in the fact that in philosophical definition we are and in logical definition we are not analysing "the idea to be defined into constituent ideas". On the other hand, in both kinds of definition there is an artificial selection from among the ultimates thus respectively at our disposal. An external object such as an orange, or a mental process such as attention, may be defined by reference to more classes than one. And, in the same way, we are not restricted to one selection from our artificially-constituted ultimates in defining our non-ultimate notions in the Logical Calculus—the notion of disjunction, for instance, may be defined with or without reference to the notion of *such that*. And, in the second place, in both kinds of definition the ultimates are immediately presented. The notion of "implication," the notion, that is to say, which is involved when we say that the proposition *p* is false or the proposition *q* is true, is as immediate as the notion "blue": both notions are discernible by the mind as unanalysable constituents of its experience.

A. T. SHEARMAN.

NOTE ON ARISTOTLE'S THEORY OF THE CONSTRUCTIVE REASON.

THE most valuable portion of the late Prof. Adamson's posthumous work on the Development of Greek Philosophy is, in my opinion, that which deals with Aristotle's philosophy; and to me at least the most interesting chapters in this section are those relating to Aristotle's theory of Reason. I say this because the general view set forth exhibits a remarkable coincidence with that originally published by me in an article contributed to the *Westminster Review* of October, 1881, and subsequently reprinted as a chapter of my work on the Greek Philosophers (1882), entitled *The Systematic Philosophy of Aristotle* (vol. i., pp. 366-375). I do not suppose that Prof. Adamson was in any way influenced by my book, or that he had even read it. Certainly there is not a single reference to it in his Lectures. Moreover the whole manner of his exposition differs so much from mine as to exclude the idea of any borrowing, conscious or unconscious, on his part. And I am not sorry that this should be so. For it must add to the force of the views we hold in common that they should be the result of independent inquiries.

Were this all I had to say it would not, perhaps, be worth troubling the readers of *MIND* about it. But the fact is that a close study of Prof. Adamson, undertaken with the object of ascertaining how far he agreed with my interpretation of Aristotle, has led me to think that on one important point he and I are both mistaken. To make this clear it will be necessary to give a short account of Aristotle's theory of Reason and of the problems it raises. And this I shall do so far as possible in the lamented Professor's own words.

As is well known the whole Aristotelian philosophy is pervaded by the fundamental distinction between Power and Energy, Possibility and Actuality, Matter and Form. These categories have long since passed into common language and have become indispensable instruments of thought to many who have never heard Aristotle's name. To this distinction we owe the famous faculty-psychology first founded by Aristotle himself, and still adequate to the needs of popular discussion, although driven half a century ago from science. According to it the human soul possesses various innate capacities, distinguished as external sense, memory, imagination, purposive volition, and reason. The last-named faculty is the peculiar

characteristic of man, not being possessed by any of the lower animals. What is more, it has not any organ or seat in our physical constitution. This faculty, which in Greek is called *νοῦς*, has for its proper function the apprehension of concepts or abstract ideas, not, be it observed, the linking of concepts in judgments, nor of judgments in trains of reasoning; neither is it the almost intuitive practical good sense connoted by the word "nous" in our own common language. Still it is in a way a faculty of intuition, a direct vision of the objective ideas embodied in external reality. As Prof. Adamson says, "the operation of *νοῦς* is . . . in its general nature like that of sense-perception". And just as sense-perception "may as faculty, prior to impression, be called the perceptible potentially, so far, that is, as form is concerned, while when actually stimulated it is this perceptible form in actuality," and, "just as sense in its actual exercise is identical with sensible form, so *νοῦς* in actual exercise is identical with intelligible form" (pp. 218-219). "Intellect (*νοῦς*) is definable only in correlation with the intelligible (*τὸ νοητόν*). It is the apprehension of the intelligible, and thereby gives to the merely potential existence of the intelligible in matter, whether corporeal or incorporeal, a higher form, an actualisation" (p. 221). So far Prof. Adamson's analysis is perfectly correct. Thinking, according to Aristotle, is the conversion of a potency into an actuality. My general capacity for thinking is condensed into a particular thought, while at the same moment that very thought as an external and independent reality, existing in the order of nature from all eternity, ideally extricates itself from its material presentation, and gains a purely spiritual existence through conscious identity with the thought in me. But here a difficulty intervenes which Prof. Adamson ignores or slurs over. Aristotle's general law of evolution is the conversion of Power into Act through the agency of a pre-existing Actuality. Now in this instance an essential condition of the process seems to be wanting. For in thinking we have to deal not with a potency *plus* an actuality but with two potencies, the indeterminate reason, the mere capacity for thought within, and the unclarified thought without. From two oceans of water heated up to 211° you cannot get one drop of boiling water, nor, as Goethe said, one white horse from a hundred greys.

Aristotle himself saw the difficulty perfectly, although he hints at it rather than states it explicitly. And he gets out of it—or rather tries to get out of it—by his usual resource, the interpolation of a middle term. This middle term is what his successors called the Poietic Reason (*νοῦς ποιητικός*). Aristotle himself does not use the term, but it fully expresses his meaning, and it is quite consistent with the phraseology he employs on this occasion. We may call it in English the Constructive Reason. As such it is distinguished from the Passive Reason, the mere capacity for receiving ideas. To quote Prof. Adamson's translation of the relevant passage in the *De Anima*, Reason "is on the one hand of such a nature that it

becomes all things ; it is on the other hand of such a nature that it produces all things after the fashion of a kind of active power such as, for example, light, for light also in a way makes what are colours in potentiality become actual colours" (iii., 430 a 10). Adamson quite correctly explains this to mean that as "light makes the colour visible . . . so the presence of reason makes possible the real apprehension of the intelligible essence of things in the world of generation, and thereby, as Aristotle would put it, makes them actual" (p. 220). But in what follows he never fairly comes to grips with the real problem : viz. is this illuminating Reason to be understood as subjective faculty or as objective realisation ? Or is it perchance neither the one nor the other ? In writing myself on the subject nearly thirty years ago, I suggested that the so-called *νοῦς ποιητικός* stood for a kind of action and reaction between Reason in the soul and Reason in the world. But, as I have said, the study of Prof. Adamson's rather similar view has led me to abandon that interpretation. What I have to offer now may be equally mistaken, but at any rate it is the result of a good deal of careful study, aided by consultation of the best authorities.

A fact that has not perhaps received due attention is Aristotle's application of the term *ἕξις τις*—"a sort of habit" to his constructive Reason. We are familiar enough with the use of *ἕξις* in the *Ethics* : and indeed our own word "habit" is another Aristotelian bequest to common language. But as applied in this context it does not seem to make the comparison with light more appropriate. What it goes to suggest is that Aristotle must be talking psychology not metaphysics, that his reference is to subjective experience, not, as some have imagined, to a transcendental cosmic agency, to a light which lighteth every man that cometh into the world. Again in the *Ethics* *ἕξις* stands intermediate between *δύναμις* and *ἐνέργεια*, potentiality and actuality, though considerably nearer to the latter than to the former. Finally Constructive Reason is spoken of as *τέχνη*, Art ; being related to mere rationality as art is related to the raw material on which it works. Now we come again on the same series of terms in the *Nicomachean Ethics* (book vi., chap. 4), where they occur in the course of a discussion on the intellectual virtues ; and among them is that very word *ποιητικός*, applied by Aristotle's commentators to designate what I call his "Constructive Reason".

All these facts taken together might make us suppose that Constructive Reason meant neither more nor less than logical discipline as set forth in some such treatise as Aristotle's own *Posterior Analytics*. Various considerations, however, militate very strongly against such a theory. Treading on such familiar ground we should expect to see the philosopher advance with less tentative and uncertain steps. Nor again can we suppose him to be assuming that reasonable beings had to wait for the publication of his *Logic* before they could take in a single abstract idea. One might indeed think of language as the instrument by which Reason is raised from

potency to act; but apart from other difficulties such a notion seems too modern even for the Stagirite. Finally the distinction between passive Reason and active or constructive Reason is specified as existing ἐν τῇ ψυχῇ—in the soul itself, which seems enough to exclude any reference to external agencies like logic or language. Nor may we identify active Reason with Reason in act. This was my own original mistake as it seems to be Adamson's also. For ζῆσις, though nearer to formed idea than to faculty, is still the producer, the artistic ability, not the completed work of art, not the poem but the poet.

The best explanation of Aristotle's tentative and embarrassed procedure seems to be that he had caught sight of a new idea which could not be fully set out with the categories at his disposition. This was no other than the idea of the ego, of self-conscious personality. The idea of self-consciousness was familiar enough to him under the form of self-thinking thought; but the idea of personality in all its fullness eludes him as it eluded all Greek speculation, remaining at a lower stage of development than in Rome and only reaching complete expansion in modern times. Meanwhile of all the Greeks Aristotle comes nearest to it, and the approach is made through the idea of self-conscious Reason. In the very obscure and rather confused fourth chapter of the third book of the *De Animâ* this fact of self-consciousness seems to be suggested as a sort of common ground between the realised Ideas of the external world and the receptive, passive or potential Nous in and through which they first reach the full dignity of disembodied existence. Reason, even passive Reason, cannot be conceived as other than self-conscious, and as thus possessed of at least one Idea ἐνεργείᾳ by whose light it has the ability (ζῆσις) to conceive all other Ideas, thus giving them the perfect life, the being in action, the ἐντελέχεια which it is their end and aim to reach, but which without the human soul they could not reach. Reason, to use a French phrase, is *amorçée*—primed—by self-knowledge, and on the explosion of that priming all the latent Reason of the world is kindled into flame. Fichte said something like this long afterwards when he deduced theoretic Reason (Vernunft) from a long series of self-reflexions performed by the ego (*W.W.*, i., p. 244); and Schelling afterwards identified the ego with his intellectual intuition. But before this could be done the preliminary work of Descartes and Kant had to be performed.

Of course the solution—granting it to be what I have suggested—is illusory: for Aristotle has no right to credit his potential Nous with a single actualised Idea, not even the Idea of itself, at first starting. Our business, however, is not to defend Aristotle, but to understand his philosophy.

In his next chapter (6) Aristotle after apparently distinguishing Constructive Reason from actualised Reason by calling it a ζῆσις, proceeds to identify them by speaking of the former as "ὡν ἐνεργείᾳ". It is then further distinguished from the passive or potential Reason

as imperishable and immortal. If I am right in explaining Constructive Reason as my rational self-consciousness, this would be equivalent to a decision in favour of human immortality. Nevertheless I do not believe that Aristotle held that doctrine. The truth would seem to be that the idea of personality, if only under the form of self-conscious Reason, having once occurred to him, brought up the idea of that self-thinking thought which he conceived to be the moving and informing principle of all nature. As is well known some expositors have supposed that this principle is what is meant by the Constructive Reason. But I agree with Prof. Adamson that such a theory is inconsistent with his whole philosophy. And I further agree with Adamson that the "*voûs* in man," although "by no means identified with the primal *voûs* or absolute reason, is in its nature identical therewith" (p. 231); adding only that this sort of conceptual identity becomes still more convincing if we interpret Constructive Reason as Reason in the act of becoming self-conscious. All Ideas have that sort of immortality which comes of being perpetually reactualised in the human mind; but personality alone has that unbroken life which is constituted by the absolute and eternal self-thinking of God.

A. W. BENN.

VI.—CRITICAL NOTICES.

Empfindung und Denken. Von Dr. AUGUST MESSER, a. o. Professor der Philosophie und Pädagogik zu Giessen. Leipzig: Quelle & Meyer, 1908. Pp. vii, 199.

THIS seems to me to be an extraordinarily good book. It is an attempt to classify all the kinds of elements which may occur as constituents of mental phenomena, and to point out the most important respects in which different mental phenomena may differ from one another. And it seems to me to make the main outlines of the subject most unusually plain. It is written beautifully simply and clearly, and is very well arranged; and Dr. Messer is wonderfully successful in making plain, by means of examples, exactly what it is that he is talking about.

One of his main objects is to show that there are two quite different kinds of elements which occur as constituents of mental phenomena. And it is very important to be as clear as possible as to what he means by a 'constituent of a mental phenomenon' (Bestandtheil eines Erlebnisses). Nothing, in his use of terms, can be an '*Erlebnis*' of mine, or a constituent of one, except what is '*erlebt*' by me. This term '*erlebt*' is, therefore, a very fundamental term; and it is important to realise that its meaning is utterly different from that of another fundamental term—namely 'object of consciousness' (Gegenstand des Bewusstseins). What is '*erlebt*' by me at any given moment is usually (Dr. Messer holds) *not* an object of my consciousness at that moment (pp. 81-82); and what is an object of my consciousness at any given moment is usually *not* '*erlebt*' by me at that moment (p. 48). So that from the mere fact that a given entity is at any given moment an object of consciousness, it cannot be inferred that it is '*erlebt*' or a constituent of an *Erlebnis*. To say of anything, therefore, that it is '*erlebt*' by me, is to say that it has to me some quite different relation from what would be meant by saying that I was conscious of it. But what relation exactly is meant, when it is said that anything is '*erlebt*' by me? This is a question which Dr. Messer would, I think, have done well to discuss expressly. But what he means can, I think, be inferred clearly enough from some of his statements. He certainly holds that, whenever I am conscious of any object, *my consciousness* of the object (though *not* the object

itself) is always '*erlebt*' by me at that moment; and he speaks as if to say that my consciousness of an object is '*erlebt*' by me were simply equivalent to saying that I am conscious of the object (pp. 19, 81). It would seem, therefore, that, whenever he says that anything is '*erlebt*' by me, what he means is that it has to me that relation which my consciousness of an object always has to me whenever I am conscious of the object in question, and which is expressed by saying that the consciousness is '*mine*'. Into the questions what this relation is, and what 'I' am, Dr. Messer does not enter at all. But for most purposes, the above definition of what is meant by his cardinal term '*erlebt*' is, I think, clear enough; and it is very important to remember this definition in view of what follows.

Dr. Messer, then, attempts to classify all the elements which are ever '*erlebt*' in this sense. And his view is that they all belong to one or other of two very different classes, which may be called the class of '*sensations*' (*Empfindungen*) and the class of '*Acts*' (*Akte*) (p. 45). That is to say, every mental phenomenon (*Erlebnis*) and every constituent of a mental phenomenon, is either a '*sensation*' or a complex composed of '*sensations*,' or an '*Act*' or a complex composed of *Acts*, or a complex composed both of '*sensations*' and of '*Acts*'. To this statement he should, I think, strictly have added one qualification. It is not clear, namely, but that *Acts* themselves, according to him, are always complex and contain constituents which are neither sensations nor *Acts* (p. 52). And these constituents of *Acts* (if there are such things) must, of course, strictly speaking, be allowed to be themselves '*erlebt*' and constituents of *Erlebnisse* just as much as the *Acts* of which they are constituents. On this view, therefore, *Acts* and sensations would *not*, according to Dr. Messer, be the *only* constituents of *Erlebnisse*; since constituents of *Acts*, which are neither sensations nor *Acts*, would be so too. But the reason why Dr. Messer does not expressly mention this qualification is, I think, a good one. Namely, that these constituents of *Acts* (even if there are such things) are not, according to him, self-subsistent in the same sense in which *Acts* and sensations are so: none of them can ever occur except *as* a constituent of an *Act*; whereas an *Act* *could* occur (even if, in fact, it never does), even though no sensation were a constituent of the same *Erlebnis* with it, and a sensation could occur, even though no *Act* were a constituent of the same *Erlebnis* with it. In other words, *Acts* and sensations are each of them capable of constituting a complete *Erlebnis* by themselves, whereas those constituents of *Acts*, which are not sensations nor *Acts*, are not so capable. *Acts* and sensations really are, therefore, the *only* constituents of *Erlebnisse* in the sense that every *Erlebnis* must contain either at least one *Act* or at least one sensation, and that if you subtract from any *Erlebnis* all that part of it which consists in *Acts* and all that part of it which consists in sensations, nothing else can ever be left at all.

'Acts,' it should be noted, in the sense in which I have hitherto used the term, is a name for mental elements, which not only are not sensations, but do not even contain any sensations as constituents. Dr. Messer himself very often uses the term also in a different sense, namely as a name for those *Erlebnisse* which, according to him, contain sensations as well as Acts among their constituents (p. 45 note). But this double use of the term is, I think, liable to cause misunderstanding; and, since what he wishes to call attention to is those mental elements which neither are nor contain sensations, I shall always use the term 'Acts' strictly in this sense. An 'Act,' therefore, in the sense in which we are to use the term, can never contain a 'sensation' as a constituent. Whether it can ever contain another Act is a point which Dr. Messer does not expressly discuss; but I see no reason why it should not.

Now, in considering this proposed classification of mental elements into 'Acts' and 'sensations,' it is obviously very important to be as clear as possible as to exactly what Dr. Messer means by a 'sensation'. In looking at this paper, I am directly conscious of an extended colour of a particular shade of white. And, so far as I can see, people sometimes give the name 'sensation' to my direct consciousness of the colour, and sometimes to the colour itself. But obviously these two things are extremely different in their nature: to which of the two does Dr. Messer mean to give the name 'sensation'? I think there is no doubt at all that he means to give it to the extended colour of which I am directly conscious, and *not* to my direct consciousness of it (pp. 19, 34, 41). Any element which can properly be said to be somebody's *consciousness* of anything is, according to him, always an Act and never a sensation. This particular white colour, therefore, of which I am directly conscious in looking at this paper, is an instance of what Dr. Messer means by a 'sensation'; and similarly in all other cases, he means by 'sensations' what I should prefer to call sense-data, *never* our direct consciousness of these sense-data. But, for the purposes of his classification of mental elements into Acts and sensations, he, of course, intends to reckon among 'sensations,' not only sense-data proper, but all other elements of the kind which would commonly be called 'sensational' elements; and he includes under this head both (1) the familiar kind of elements which Hume called 'copies' of sensations and which Dr. Messer himself calls 'Reproductions of sensations' (pp. 26 foll.), and (2) certain directly presented properties of sense-data proper and their reproductions (e.g., their directly presented spatial relations) which he proposes to call 'Forms of Sensation' (p. 26). Moreover he reckons among sense-data proper the class of elements which Stumpf calls 'Gefühlsempfindungen' (p. 23). All these four classes of elements (with the possible exception of some of those which Dr. Messer seems to reckon among 'Forms of sensation') do, I think, obviously deserve to be classed together as 'sensational' elements. Dr.

Messer means to include them all in his class of 'sensations'; and I shall speak of them all as sense-data. By 'Acts,' therefore, he means exclusively mental elements which do *not* belong to any one of these four classes: and that mental elements, which do *not* belong to any of the four, do exist and occur as constituents of almost all our commonest *Erlebnisse* is one of the points which he is most anxious to establish. Too many psychologists have, he thinks, supposed that sense-data (in the wide sense explained) are the *only* constituents of our *Erlebnisse*; and he is very anxious to show quite clearly that this view is completely mistaken. But, though he thus holds that sense-data are by no means the *only* constituents of our *Erlebnisse*, he does, as we have seen, still hold that they *are* constituents of them, in exactly the same sense in which Acts are: that they, equally with Acts, are really '*erlebt*'. And this seems to me to be one of the most important points in which his views are open to criticism. Is it, in fact, the case that the elements which he calls 'sensations' ever are '*erlebt*' and constituents of our *Erlebnisse*, in the same sense in which 'Acts' are so?

So soon as we realise that he always means by 'sensations' mere sense-data, and never our direct consciousness of them, it seems to me very doubtful whether he is right as to this. For, when he maintains that these sense-data are '*erlebt*,' what he is maintaining, as we have seen, is that this particular white, of which I am now directly conscious, has to me at this moment, or had a moment ago, exactly the same relation which my direct consciousness of it now has to me—the unique relation which I express by saying that this consciousness is mine. Is this in fact the case? I cannot help doubting whether it is. So far as I can see, no sense-data ever have to me or to my Acts precisely those relations which all my Acts have to me and to one another. And it should be noted that this point is quite a different one from that which is commonly argued, when it is sought to show that sense-data are dependent on the individual mind, in a sense which would prevent them from being 'physical properties,'—a point which is the only one which Dr. Messer himself argues. He urges that every sense-datum can only be directly known by a single Ego (p. 35); that is to say, that no two Egos can ever be directly conscious of numerically the same sense-datum: and he asserts also that, unlike physical objects, every sense-datum exists only so long as it has a peculiar relation to the Ego, by whom it can be directly known (p. 37). But even if we grant both these two points (for which the arguments are familiar), and grant, therefore, that in these two respects sense-data resemble Acts, it by no means follows that they *also* resemble Acts in respect of the fact that they are '*erlebt*'. It may quite well be true that every sense-datum is completely dependent upon some individual mind, without its being true that any sense-datum is ever related to any mind in the peculiar way in which all our Acts are related to us. And, so far as I can see, the latter proposition is

not true. Instead, therefore, of maintaining that *some* constituents of our *Erlebnisse* are Acts, I think Dr. Messer should have maintained that *all* of them are Acts. Instead of maintaining that sense-data are not the *only* elements of consciousness (*Bewusstseins-elemente*), he should have maintained that they are not elements of consciousness at all.

In connexion with this question as to whether, and in what sense, sense-data are 'psychical,' it should perhaps be noted that Dr. Messer seems to wish to combine with the view that they are 'psychical' a view which is, in fact, incompatible with it. He insists that certain sense-data, *e.g.*, this particular white which I now see, "may be regarded, from one point of view" as "physical properties," though, from another point of view, they are "sensations" and something "psychical" (p. 35). And when he says that they 'may be regarded' as physical properties, he obviously does not mean merely that some people do in fact *falsely* so regard them. He obviously means to assert that such a way of regarding them may *possibly* be *true*, even though it is also true that they are 'psychical'. He seems to think that it is legitimate and necessary to distinguish between this particular white which I now see 'as a physical property,' and the same white 'as a sensation' in such a way as to allow of our saying that 'as a physical property' it might possibly continue to exist, even when I had ceased to exist, although 'as a sensation' it must cease to exist, if I were to cease to exist (pp. 37, 39). He does not seem to see that if (as he seems to hold) the white of which he is talking is really one and the same thing (pp. 34, 75) it is totally impossible that it should be true of it *both* that it could exist, even when I had ceased to exist, *and* that it could not exist, if I had ceased to exist; and that this is not rendered any more possible by saying that the one thing is only true of it 'as a physical property,' and the other only true of it 'as a sensation'.

So much for Dr. Messer's views about sense-data. But, whether he is right or not in holding that sense-data are constituents of our *Erlebnisse*, he is, I think, certainly right in holding that some of their constituents are of quite a different nature from any sense-datum: in other words, that there are such things as Acts. The only question is: What exactly is the nature of these Acts?

Dr. Messer holds that they may be roughly divided into three great classes, namely cognitive Acts (*Akte des Gegenstandsbewusstseins*), Acts of feeling or 'emotional' Acts and Acts of will (p. 45); though elsewhere he names a much larger number of varieties (p. 53), *e.g.*, supposing (*Vermuten*), judging, fearing, hoping, desiring, liking, disliking, which he apparently regards as subdivisions of the three great classes. And these names are, I think, sufficient to indicate the sort of thing he means by 'Acts'. But what characteristic is it, after all, that is both common and peculiar to all these various Acts? Dr. Messer tries to express the

most fundamental characteristic that is common and peculiar to them all by saying that, 'in' all of them we are 'directed towards' (gerichtet auf) some object (Gegenstand)—that *in* all of them 'we mean' (meinen) some object (p. 38); and he accepts Husserl's name for Acts '*Intentionen*,' as expressing this characteristic (p. 39). And obviously he means by 'directed towards' some unique kind of relation. But there are two important points which he leaves obscure. The first is this: Does he hold that this unique relation of 'direction towards' is a direct relation between the *Ego* and the object? or does he hold that it is a relation between the *Act* and the object, and that the *Act* itself is something substantial and *not* a relation? Of course, even if the latter alternative were adopted the *Ego* would have a unique relation to the object, consisting in the fact that an *Act* directed to the object was *erlebt* by it; and this complex relation of the *Ego* to the object might also be called a relation of 'direction towards' the object: but, in this case, the relation of the *Ego* to the object would be a complex relation, consisting in the fact that it was related in one way to the *Act*, and the *Act* in another way to the object; and the fundamental relation of 'direction' would be that of the *Act* to the object. This latter alternative is the one which I am inclined to adopt; and I shall speak as if the relation of 'direction' were a relation between the *Act* and the object. But, of course, any other questions concerning its nature will apply to it equally, even if this alternative is not the true one; even if, that is to say, the *Act* is not something substantial, and the relation of 'direction' is a direct relation between the *Ego* and the object. The second point which Dr. Messer leaves obscure is this: Is this fundamental relation of 'direction' identical, or not identical, with the relation between the *Ego* and an object (or between an *Act* and its object) which is expressed by saying that the *Ego* is '*conscious of*' the object? From the fact that Dr. Messer appropriates the name 'consciousness of' exclusively to one particular variety of Acts, namely cognitive Acts, it might be thought that, in his view, 'direction' is a generic name for several different relations of which 'consciousness of' is merely one specific variety. But, on the other hand, he expressly asserts that cognitive Acts are not merely co-ordinate with the other kinds. He holds (following Brentano and Husserl) that every *Act* of feeling or of will is always 'founded' (fundiert) upon a cognitive *Act* directed to the same object (pp. 46, 53-54); and part of the meaning of this assertion is that no *Act* of feeling or of will is ever *erlebt* by any *Ego*, unless that *Ego* is simultaneously 'conscious of' the object to which the *Act* is directed. He would, therefore, perhaps, admit that the 'founding' cognitive *Act* is always not merely simultaneous with but a constituent of the *Act* which is founded on it; and admit further that the other constituent of the founded *Act* was not another complete *Act*, directed in a different specific way to the object, but merely a quality of the cognitive *Act*. This is the

view which I am inclined to adopt, and it is, I think, quite consistent with Dr. Messer's statements. And if it be adopted, then the fundamental relation of 'direction' would be identical with that expressed by 'consciousness of'; and Acts of feeling or of will could only be said to be 'directed to' an object, because they include a consciousness of this object. Dr. Messer, however, does not discuss in detail the precise manner in which Acts of feeling or of will differ from cognitive Acts; and hence he does not decide the question whether what is meant by calling them all Acts is simply that they all are, in fact, a 'consciousness of' some object, though Acts of feeling and will are something else as well.

However this question be decided, it is obviously a very fundamental question what precisely the relation expressed by 'conscious of' is; and this is a question which particularly concerns Dr. Messer, since he is mainly occupied with cognitive Acts. And here, I think, is one of the weakest points in his treatment of the subject. He completely fails to recognise, what is, I think, the case, that this name 'conscious of' is in fact used, even by himself, to express two extremely different relations between an Ego and an object—extremely different, even if they have, beside the common name, some other characteristics which are common and peculiar to both. One of the two relations which I mean is that to which Dr. Messer himself refers, in the passage mentioned above, when he maintains that nobody except myself, can ever *know directly* numerically the same sense-data which I *know directly* (p. 35). When he says this, he of course does not mean to maintain that the sense-data which I *know directly* cannot be 'objects' in any sense at all to other people—that other people cannot be 'conscious of' them in any sense at all: he only means to say that they cannot be *direct* objects to any other person—that nobody else can be *directly* conscious of them. Now, when he uses the term 'consciousness of an object' he certainly (and quite properly, I think) uses it to denote a relation which other people *can* have to the sense-data, which I alone can *know directly*; as well as to denote that relation (the relation of 'direct knowledge') which (according to him) I alone can have to them. And yet, as he himself implies in the passage mentioned, there certainly is some very important difference between the relation which I alone can have to them, and that which other people, as well as I, can have to them. To *both* these two relations he gives the name 'consciousness of': and here, I think, he is quite right; for, whenever we have either of them to any object, we are, in a sense, 'conscious of' the object—the object is an object *to us*. But he never expressly points out the difference between them; and this, it seems to me, is a most serious omission, since the difference (as he himself implies) is a most important one and one of the most fundamental in the theory of consciousness. I propose to emphasise the difference by calling the relation which he calls 'direct knowledge' 'direct consciousness'; and to define this

relation as *the* relation which we have, for instance, to a colour, at the moment, and *only* at the moment, when we are actually seeing it. Whenever, and only when, we have precisely this relation to an object (of whatever kind) I propose to say that we are 'directly conscious' of the object in question. And *whenever* we are conscious of an object or the object is an object *to* us, *without* our having precisely this relation to it, I propose to say that we are 'indirectly conscious' of it. With this definition it is plain, I think, that the greater part of the relations which we commonly talk of as 'cognitive relations,' are merely instances of 'indirect consciousness'. *E.g.* even when I remember a sense-datum, which I have previously actually seen, I am only 'indirectly' conscious of it; since, in remembering it, I certainly never have to it (*the* precise sense-datum, which I formerly saw) precisely the relation which I had to it at the moment when I saw it. And similarly in all our knowledge of physical objects (provided that sense-data are not physical objects), even when we 'perceive' or 'observe' them, and in all our knowledge of other people's minds, the objects of whose existence we know are *never* objects of 'direct consciousness'.

Dr. Messer's failure to notice expressly this fundamental distinction between 'direct' and 'indirect' consciousness, is, I think, connected, partly, perhaps, as cause and partly as effect, with another point which seems to me to be one of the most serious defects in his treatment of his subject. Namely, he does not seem to recognise the enormous part that is played in most of our commonest *Erlebnisse* by our *direct* consciousness of sense-data. The truth is, so far as I can see, that in every case in which he supposes a sense-datum to be '*erlebt*' by us, we are, in fact, directly conscious of the sense-datum in question. Whereas he seems to hold that we are never directly conscious of sense-data except in Acts of 'inner' perception. He asserts, for instance, expressly, that, in external perception, sense-data are always '*erlebt*' by us, but are always *merely* '*erlebt*,' never objects of an Act (p. 39). He may, perhaps, be partly influenced in saying this by his view (which is, no doubt, true) that in external perception we are not normally conscious of them as 'sensations,' *i.e.* as something psychical. But it seems to me that his assertion, as it stands, is inconsistent with what he himself seems to hold elsewhere. For he does seem to hold that, in external perception, we are normally conscious of sense-data as 'physical properties' (p. 38); and how can we be conscious of them as anything whatever, without being conscious of *them*? I think, therefore, he is bound to admit that, in external perception, we are at least 'conscious of' sense-data, in the wide sense in which he himself uses the phrase 'conscious of,' *i.e.* either 'directly' or 'indirectly' conscious of them. And it seems to me that, in fact, in external perception, we are always *directly* conscious of some sense-data. That Dr. Messer does not recognise this fact (if it be a fact) is surely a most serious defect in his analysis of

external perception. And similarly, so far as I can see, in all the many *Erlebnisse*, in which he supposes that 'images' or 'reproductions' normally occur as 'constituents,' i.e. as '*erlebt*' (and these *Erlebnisse* include, beside external perception, most cases of imagination and memory), we are, in fact, directly conscious of the images in question.

And Dr. Messer's failure to recognise that in all these cases we are directly conscious of sense-data, leads him, I think, to misrepresent what is, in fact, one of the most important and valuable points in his book. He speaks as if one of his main objects was to call attention to the existence of mental elements quite different in kind from mere sense-data. But it seems to me that, in fact, the class of mental elements, of which he is chiefly thinking and which it is his main service to have pointed out, does not embrace *all* those which are not mere sense-data, but only that part of them which, besides not being sense-data, do not even consist in the direct consciousness of sense-data. In other words, he tends to identify 'Acts' with those among Acts which do not merely consist in the direct consciousness of sense-data. And this, from the point of view of a complete classification of 'Acts,' is a serious mistake. But, on the other hand, it is certainly those Acts, which do not consist merely in a direct consciousness of sense-data, which are most liable to be overlooked and which, therefore, it is most important to emphasise. Thus, in effect, Dr. Messer draws attention chiefly to two classes of Acts, namely (1) Acts of indirect consciousness, (2) Acts of direct consciousness, whose objects are not mere sense-data.

There is one other quite general point as to the nature of Acts, which should, I think, be mentioned. Namely, Dr. Messer holds that any two Acts which have different objects always have different 'matters' (*Materien*)—a term which he adopts from Husserl (pp. 50-51). And he does not seem to regard this as a merely tautologous proposition: that is to say, he does not regard the assertion that they have different 'matters' as simply a repetition of the assertion that they have different objects, but as giving us some important additional information with regard to them. This being so, he must, I think, mean by the 'matter' of an Act *not* simply and solely its relation of direction to its object, but some supposed internal quality, such that any two Acts which have different objects, must *also* have different qualities of the kind supposed. In short, he means, I think, by the 'matter' of an Act what is, I believe, often called its 'content' (*Inhalt*) as opposed to its object; and he is holding what is, I believe, the very common view, that any two Acts which have different objects must *also* have some corresponding internal qualitative difference. There may, perhaps, be some good arguments in favour of this view; but there seems to me to be one very strong argument against it, namely that it is impossible to verify by observation the existence of any internal qualitative

difference between every pair of Acts which have different objects. When, for instance, I compare my direct consciousness of a particular blue colour, with my direct consciousness of a particular red colour, or with my direct consciousness of a particular musical note, I am unable to detect by observation that these three Acts have any difference at all except that which consists in the fact that they have different objects. I am, therefore, inclined to doubt whether it is true that every pair of Acts, which have different objects, must also have any such internal qualitative difference, as Dr. Messer seems to mean by a difference of 'matter'.

And there is, I think, reason to suspect that, in many very important cases, Dr. Messer mistakes for a difference of 'matter' between different Acts, what is, in reality, a difference consisting in the fact that they have different objects. He asserts, for instance, that two Acts, which have the same object, may yet sometimes have different matters; and he gives as an illustration of this such cases as where, in one Act, I think of Berlin as the capital of Prussia, and, in another, think of it as the biggest town in Germany (p. 51). In such a case, he says, the two Acts have the same object, *viz.* Berlin, but they have different 'matters'. Now it seems to me that, in all such cases, though the two Acts do have the same object, it is also true that they contain Acts with different objects: for instance, in the case quoted, the one Act contains an Act which has for its direct object the universal (or, as Dr. Messer calls it, "universal object") "capital," while the other contains an Act which has for its direct object the universal "biggest town". And, of course, it is possible that Dr. Messer does not mean to deny this; it is possible that, when he asserts that the two Acts have the same object, he does not mean to deny that they *also* have different ones. But, if so, I think that his language is at least misleading. It certainly suggests that he holds that these two Acts differ *solely* in respect of their 'matters,' and not at all in respect of the fact that they have different objects. I am, therefore, inclined to suspect that he is here mistaking for a mere difference of 'matter' what is, in fact, a difference of object; and that he does not recognise that, in the one Act, we are conscious of the universal 'capital,' and in the other of the universal 'biggest town,' but thinks that in both we are *only* conscious of Berlin. If so, and if I am right in holding that in all such cases we are conscious of universals, the error is extremely grave; for it applies to all cases in which we think of objects by means of what Mr. Russell calls 'denoting concepts'. And I am inclined to think that this point is connected with another point in Dr. Messer's views, which seems to me to call for special notice. One of the questions which he discusses most fully is that concerning the nature of the Acts, which are '*erlebt*' by us, whenever we understand the meaning of words—the Acts in which the understanding of their meaning, as distinguished from the mere perception of the words themselves,

consists. And in this connexion, he insists that the 'meaning' (Bedeutung) of a word is always an element in the 'matter' of these Acts (pp. 114-115, 128), and *not*, therefore, an object of which we are conscious, when they are '*erlebt*' by us; since, according to him, we can *never* be conscious of the 'matter' of an Act at the moment when the Act is *erlebt* by us (p. 74); the 'matter' is always merely *erlebt*, and *never* simultaneously an object of consciousness. It follows that, according to him, the 'meaning' of a word is an element of which we are never conscious at the very moment when we are, *ex hypothesi*, understanding its meaning. This view seems to me a very strange one; and I am inclined to think Dr. Messer may have adopted it partly because he fails to recognise that when we understand the meaning of the words 'the capital of Prussia,' we are always conscious (among other objects) of the universal 'capital'. If, as I suspect, he does not recognise that the Act, which consists in understanding the meaning of the words 'the capital of Prussia,' has a different *object* from that which consists in understanding the meaning of the words 'the biggest town in Germany,' he might naturally be led to the view that the obvious difference between the 'meaning' of these two expressions was merely a difference in the 'matter' of the two Acts. And I cannot see any other reason why he should wish to identify the 'meaning' of a word with an element in the matter of such Acts rather than with one of their objects.

So much for the question as to what characteristics are common and peculiar to all Acts. But Dr. Messer also tries to specify some of the chief respects in which one group of Acts may differ from another group, and which, therefore, furnish a basis for a classification of Acts.

One of the most important differences of this kind, which he mentions, is the difference between a class of Acts which he calls 'propositional' Acts, and another class (embracing, apparently, *all* other cognitive Acts) to which he gives the less suitable name of 'nominal' or 'naming' Acts (pp. 58, 139). But though it is, I think, clear that he has in view here some very important difference, he does not, I think, succeed in making quite plain exactly what the difference is; and though, in the majority of cases, it is easy to tell by reference to what he says, whether a given Act belongs to the one class or the other, there remain a good many cases in which, I think, this is by no means easy. All 'judgments' (Urtheile), of course, belong to the class of 'propositional' Acts; and Dr. Messer also reckons among them all cases where we merely apprehend a proposition, without either believing or disbelieving the proposition in question (p. 58). It might, therefore, be thought that his class of 'propositional' Acts was coextensive with the class which Meinong divides into the two subordinate classes of 'judgments' and 'Annahmen'. But then he expressly refuses to include among 'propositional' Acts one of the chief classes which Meinong

reckons among *Annahmen* (p. 139); and it is not clear to me either exactly why he does this, nor whether this class have or have not the characteristic (whatever it may be) which he takes to be distinctive of propositional Acts.

It should be noticed that he asserts that the difference between propositional and nominal Acts is a difference of 'matter'. In asserting this, he does not, I think, mean to deny that 'propositional' Acts are *also* distinguished by the fact that their objects all have some common characteristic which is not possessed by the object of any 'nominal' Act. He only means, I think, that all 'propositional' Acts, in addition to having a distinctive kind of object, *also* possess some internal quality, which no nominal Act possesses: and here, I think, he may be right. If he does not mean to allow that all propositional Acts have a distinctive kind of object, there would seem to be no reason why he should reckon the internal qualitative difference, which he supposes to distinguish them from nominal Acts, as a difference of 'matter' rather than as a difference of the kind I have next to mention and to which he confines the name difference of 'quality' (*Qualität*).

I have already said, that so far as I can see, what Dr. Messer means by a difference of 'matter' between Acts is, strictly speaking, an internal *qualitative* difference: that is to say it is not a mere numerical difference, nor a mere difference of degree, nor a difference which merely consists in the fact, that any two Acts which have different 'matters,' are differently related to other entities. But, following Husserl, Dr. Messer makes a distinction between differences of 'matter' and differences of 'quality' (*Qualität*), confining the latter term to one particular kind of qualitative differences between Acts (p. 51). And, so far as I can see, the distinction which he has in mind is the following. Any quality of an Act is to be reckoned as belonging to its 'matter,' whenever and only when it is of such a nature that all the Acts which possess it are also distinguished by the fact that their objects also have some characteristic which is both common and peculiar to them all; whereas the term 'quality' (*Qualität*) is to be confined to those qualities which may belong to each of a whole set of Acts, even though their objects have no characteristic which is both common and peculiar to them all. It is true that, with this definition, no two Acts which have not different objects can possibly have different 'matters'; whereas, as we have seen, Dr. Messer seems to maintain that Acts which have not different objects may yet have different 'matters'. But, as I said, in the case where Dr. Messer seems to suppose that this occurs, there seems reason to suppose that the Acts in question really have different objects. And I can find no other precise statement of the difference between 'matter' and 'quality,' which seems to harmonise so well with Dr. Messer's actual use of the terms as this does.

As regards differences of 'quality' in this restricted sense, Dr.

Messer regards the before-mentioned differences between cognitive Acts, 'emotional' Acts, and Acts of will as differences of this sort; but, as was also said, he holds that those three great classes may be subdivided into a great number of subordinate varieties, each of which has a different 'quality' from any of the rest; and he does not attempt to give an exhaustive list of all the possible varieties. It should be noticed that, in reckoning these differences as differences of 'quality,' he implies that an Act with one of these qualities may have precisely the same object as another Act with a different quality; that, for instance, I may, on one occasion, 'will' precisely the same object, which on another occasion I merely cognise, without willing it—a point which might perhaps be disputed, but as to which he seems to me to be right. But, whether he is right as to this or not, he is, I think, clearly right in holding that the kinds of Acts in question do differ in internal quality, and not *merely* in respect of the nature of their objects.

There is one difference of 'quality' upon which he lays especial stress—namely that which he describes as the difference between 'positing' (setzende) and 'non-positing' (nicht-setzende) Acts (p. 57). The difference he means is, of course, the difference between that attitude to a proposition which we call 'belief,' and the kind of consciousness which we have of it, when we merely apprehend it, without either believing or disbelieving; it is, in short, the difference which Meinong describes as the difference between 'judging' (Urtheilen) and 'supposing' (Annehmen). But Dr. Messer supposes that 'propositional' Acts are not the only kind of Acts which can differ from one another in this way: he supposes that 'nominal' Acts also can be 'positing' (p. 58). In this, however, I cannot help thinking he is wrong. So far as I can see, it is not possible to believe anything but a proposition. Dr. Messer only gives as an instance of the cases where, according to him, a 'positing' nominal Act occurs, what happens when we believe such a proposition as "The Emperor Charles conquered the Saxons". When we "posit" this proposition, we also, he thinks, "posit" its subject, the Emperor Charles. But surely there is a confusion here. When we believe such a proposition as this, it is, I think, generally true that we believe also in the *existence* of the subject; and similarly in propositions about what Dr. Messer calls 'ideal' objects, we generally believe in the 'being' of their subjects, though not in their 'existence'. But surely these beliefs in the existence or the being of a subject are 'propositional' Acts; and I can see no reason to think that any further 'positing' Act is involved—a 'positing' Act, for instance, of which the Emperor Charles himself, and not merely his existence, is the object. I am inclined to think, therefore, that Dr. Messer only thinks that 'nominal' Acts can be 'positing,' because he mistakes for a nominal Act, in these instances, what is, in reality, a 'propositional' Act. And, in another important instance, he seems to me to make the same mistake, with

another mistake in addition. He declares, namely, that the difference between the way in which students of philosophy may come to regard certain phenomena, when they are persuaded that these are 'mere presentations' (*blosse Vorstellungen*), and the way in which they formerly regarded the same phenomena, when they supposed that they 'existed independently,' is merely a difference of 'quality' (p. 51). Yet surely both ways of regarding these phenomena are in fact 'propositional Acts' of *the same* quality, but with different objects—namely in the one case, the proposition that the phenomena in question do not exist independently, in the other the proposition that they do. Dr. Messer plainly thinks that both are merely 'nominal' Acts, with the *same* object (namely the phenomena in question), but of different 'quality'. Here, therefore, I think he is mistaking a pair of propositional Acts, with different objects but the same quality, for a pair of nominal Acts, with the same object and different quality.

Beside differences of 'matter' and of 'quality,' Dr. Messer calls attention to one other kind of difference between cognitive Acts, which ought perhaps to be reckoned as an internal qualitative difference. Namely, he holds that some cognitive Acts are 'founded' upon other cognitive Acts (pp. 63 foll., 136) in the same sense in which, as was said above, he holds that all Acts of feeling or of will are always 'founded' upon some cognitive Act; but that other cognitive Acts are not 'founded' upon any other Act at all. The question whether all cognitive Acts, which are 'founded' upon some other cognitive Act, may, for that reason alone, be said to differ internally from cognitive Acts, which are not so founded, depends, of course, upon the question whether a 'founding' Act is or is not always a constituent of the Act which is 'founded' on it. I am inclined to think that it is; but, as was said above, Dr. Messer himself is not explicit on this point.

But, besides differing in *quality*, Dr. Messer holds that cognitive Acts may also differ in *degree*. That is to say, he seems to hold that the fundamental relation meant by 'consciousness of' may have various degrees of intensity; and that 'attention' is merely a name for those instances of this relation, of which the intensity is above a certain point (p. 120). This view of 'attention' has an attractive simplicity, and, so far as I can see, it may be right.

But whatever view may be taken as to the precise nature of Acts and of the possible differences between them, it is, I think, certainly worth while to have called attention to their existence, *i.e.* to the existence of mental elements which are quite different in their nature from mere sense-data, and to the many points of interest which may be raised with regard to them. This, as I said above, is what Dr. Messer represents as his main object; and he seems to me to have carried it out extraordinarily well. Only, as I said, it seems to me that he very much understates the interest of his discussion, through failing to point out that what most of his arguments

really tend to show is not merely that there exist mental elements which are not mere sense-data or complexes of sense-data, but the much more interesting and important point that there exist mental elements which do not even consist in our *direct consciousness* of sense-data, but consist either (1) in our *direct* consciousness of objects which are not sense-data or (2) in our *indirect* consciousness of all sorts of objects, the objects in question being, in this case, sometimes mere sense-data, but more frequently objects of other kinds. The instances in which he thus brings out most clearly the existence of Acts which do not merely consist in the direct consciousness of sense-data, are, I think, the following. (1) All cases of external perception, of imagination (*Phantasie*) and of memory. He urges that in *every* case of external perception, *every* case of imagination, and *every* case of memory, some Act is always included as a constituent, which is *not* a direct consciousness of any sense-datum. And it seems to me that, in all these cases, the Acts of which he points out the existence are Acts of *indirect* consciousness. Moreover, in the case of external perception, their objects are *never* mere sense-data; and, though they sometimes are so, in the case of imagination and memory, this is not generally the case. (2) He points out that each of us can 'perceive internally' his own Acts. And such Acts of 'internal perception' are, it seems to me, instances of Acts of *direct* consciousness, of which the objects are not mere sense-data. (3) He points out that we are very often conscious of "universal objects"; and here again the Acts which he points out, are, it seems to me, instances of Acts of *direct* consciousness, of which the objects are not sense-data. Finally (4) he points out that almost always, when we understand the meaning of words, our Act does not consist merely in the *direct* consciousness of sense-data. And here the instances which he gives are of both kinds—both Acts of indirect consciousness, and Acts of direct consciousness of which the objects are not mere sense-data.

G. E. MOORE.

Der Freie Wille: Eine Entwicklung in Gesprächen. Von KARL JOËL. München: F. Bruckman, 1908. Pp. xvii, 724. 10 m.

IN recent years there has been an inclination among many philosophical thinkers to treat the long dispute over the freedom of the will as closed. Freedom in the libertarian sense is declared to be a fiction, and the 'soft' Determinism which admits that the self determines itself is accepted as a sufficient theory. But quite recently, in this country as well as on the Continent and in America, there have been signs which point to an attempt to revive Libertarianism in some form. Pragmatism, for instance, through some of its prominent supporters, affirms the reality of open possibilities;

and elsewhere it is argued that the testimony of the experient subject must not be disregarded. This lengthy volume by Prof. Joël, of Basel, is another evidence of a desire to reconsider the question, and to vindicate if possible the claims of freedom in a sense which is incompatible with any form of Determinism. Prof. Joël writes with a full consciousness of the importance of his theme. "The problem of freedom is the problem of humanity. And something more than a mystical romantic belief in our liberty is needed; we require to vindicate the validity, the logical validity of freedom" (Preface).

In his Preface the author explains what he has attempted in this work. The book is more than a theoretical discussion: it is the record of a personal history stretching through several decades. The writer was at one time a devout determinist; but critical reflexion and personal experience combined to make him more and more dissatisfied with determinism. Step by step he developed a libertarian line of thought which reached its goal in a speculative theory. Prof. Joël has chosen the form of dialogue in which to unfold the stages of this development. His aim seems to be to exhibit the controversy of the mind with itself, and the ultimate issues at which it arrives by loyally following the lead of the argument. The dialogues, it may be said in passing, if they do not reveal dramatic power are at least interesting, and offer a convenient means for considering difficulties and objections. On the other hand the plan followed by the author involves the discussion of the same topics both from the determinist and the indeterminist standpoint, and it was perhaps inevitable that there should be a good deal of repetition in the book. The work falls into two sections. In the first the plea for Determinism is stated. In the second, which fills much the larger part of the volume, the case for Freedom is argued. In a concluding dialogue, entitled *Mysterium*, the *Weltanschauung* of the author is suggested rather than definitely formulated.

The first section, as it no longer represents the writer's real position, may be passed over rapidly. Prof. Joël begins with the naïve man's idea of freedom, and easily proves how soon he is involved in perplexities. He goes on to show how the determinist argument finds support in Modern Philosophy, Science, and Law, as well as in the field of History and of Moral Statistics. The section at all events shows the wide appeal Determinism makes and the support which it draws from different sides of the social whole. If one were to pass a criticism it would be, that the author might have tried to develop more fully and connectedly the reasoning on which Determinism rests. As it is, the section has too much the appearance of an attempt to advocate Determinism by mere weight of testimony from writers great and small. At points the dialogue almost resolves itself into a series of quotations.

The second section is the most important part of the book. It is.

an acute and thoughtful piece of work, and it will be found suggestive even where it is not convincing. One general remark may be made here. Prof. Joël is aware that the word 'freedom' has different meanings, but his own use of the term is sometimes lacking in precision. He speaks, for instance, of a threefold presence of freedom in causality, *viz.* in the cause as such, in the beginning of every causal series, and in self-determination. The reader is naturally puzzled as to the exact connotation of the word in each of these cases. Moreover in the course of his argument he is not sufficiently careful to distinguish mechanical Determinism from spiritual Self-Determinism.

Like most opponents of Determinism the author lays stress on the testimony of personal experience. It is a psychological fallacy to regard the subject only as an object; and the experient self which owns its psychical states is by no means in the same position as the spectator who tries to interpret them. As opposed to the observer who seeks to establish a necessary connexion between the psychical series of facts, the *I* has an immediate apprehension of free activity or power of initiation. Joël contends that freedom may be non-rational though not irrational, and that it is false to suppose that Indeterminism, if true, must be able to prove its truth. To those who say that freedom is just the felt absence of constraint in action he replies, that then the distinction between a free and a non-voluntary psychical process disappears. Moreover on this view the individual when hampered by a conflict of motives should feel himself least free, which is not the case. To reject Determinism, it is fairly argued, is not to accept a liberty of indifference in moral choice or a reign of sheer chance. Freedom is a question of degree, and a man may so come under the dominion of his passions and desires that he is no longer able to break their sway. In fact those who say that open possibilities do exist can fully recognise the constant and uniform aspect of human conduct, and admit that the fact of responsibility implies it. The existence of a more and less in freedom constitutes for Joël an objection to the Kantian theory. If freedom involves the possibility of making new beginnings which are not empirically determined, Kant, in tracing this possibility to the noumenal self which is outside the determinately connected time-series, left himself no room to accept degrees of freedom. This theory implies a sharp antithesis which is not in harmony with the facts of moral experience. But if Kant fails to convince us he leads us to the heart of the problem; and we must now ask how far Prof. Joël sheds light on the crucial question, the nature of the will as expressed in choice.

Critics of Libertarianism press their opponents very hard in the matter of the relation of the will to motives in the act of choice. If it is agreed that voluntary choice expresses a motive, it is pointed out that the motive was the inevitable outcome of the situation as a whole. To the reply that the self as will selects between motives,

rejoinder is made, that the explanation of that selection is itself a motive, and you are no further forward. If you deny this, it is contended, you must say that the will makes an unmotivated and therefore unreasoned choice ; consequently the connexion of conduct with character is broken, and the moral value of action is destroyed. The way in which Prof. Joël meets this argument must be gathered from different parts of his book, but his general position may be inferred from the following statements. At various places, and especially in the dialogue entitled "The Mythology of Determinism," he strongly criticises the deterministic conception of the will and its operations. Determinists have a trick of turning adjectives into substances ; they invest motives and tendencies with a being of their own, and even speak of the will as a thing. This, I may remark, is perhaps true of mechanical determinists, but it is hardly applicable to advocates of spiritual self-determinism. The key to Joël's theory is his conception of the volitional self as subject, distinguished from its states and not to be merged in its concrete content. There is, he says, an immediate apprehension (which is not identical with knowledge) of the *ego* as subject, and he even speaks at one point of this self being independent of its total psychical content. The will is not a predicate of the subject but its function : the will in itself means freedom and possibility, and it must be distinguished from the will as qualitatively determined. Here Joël, if we except the matter of timelessness, seems to approximate to the Kantian pure *ego*. But to the charge of endowing an abstraction with reality he replies, that this self is directly experienced ; and having separated it from its states, he again seeks to bring it into relation with them. So far as I understand his reasoning it seems to be that, while the free-moving self, as source of variation and possibility, is not constituted by motives, desires and impulses, it constitutes them. The motive, it is correctly pointed out, is an abstraction apart from the willing self, and cannot be regarded as determining the will from without. If the motive decided no place would be left for the will at all, and even the notion of a determined will would be a fiction. If it be said that motives arise from the character, and character determines choice, Joël replies that here, under another name, you are bringing back the false idea of compulsion by motives. You are supposing what is really dependent on the will rules the will. Impulses, desires and passions are not powers which determine the will in the process of deciding : they are the forms in which the will expresses itself. "The will lives in the multiplicity of impulses ; it is not their slave but their ruler ; only in this multiplicity can it realise itself as willing, choosing, deciding." And elsewhere he speaks of the will constituting its impulses much in the way that an organism fashions its members.

This conception of a free-moving will, a function of the self yet not to be identified with the specific nature of the self, is likely to

meet with criticism. How, it may be asked, does this pure function which chooses emerge in the history of the individual? When there is only conative or impulsive life there is no sphere for its activity; and, as there is continuity in the individual history, one would expect that it does not spring forth in completeness at some particular point. Prof. Joël would say, I imagine, that it accompanies the advent of self-consciousness and grows with its growth. Again, are we to suppose that the pure self decides for A as against B uninfluenced by the concrete motives and interests which are the expression of character in the given situation? Prof. Joël often speaks as if manifold open possibilities were normally before the self when it determines itself to action. No doubt if we admit the existence of Indeterminism at all, we must concede to the self some power of making a new beginning which is not the necessary outcome of the past and present. Our author does indeed allow that the will, as source of possibilities, may come under limitations. This happens on the side of the subject when consciousness is weakened, either through the dominance of some passion or by action becoming mechanised. It occurs on the side of the object when the will is limited by the situation and confronted with "forced options". But I cannot help thinking that, if Indeterminism is to stand the brunt of criticism, it must admit something more than this. If action is to be moral, the possibilities which lie before the agent must be those which are contained in his own nature, in the character he has formed. And these are certainly limited, and sometimes severely so. The Indeterminist who goes beyond this sacrifices the ethical personality of man, and makes him an unaccountable being whose deed may have no relation to what he is and has been. In other parts of the book, it is fair to add, the existence of what is termed the 'constant element' in human nature is acknowledged and found to be implied in the fact of moral responsibility.

I can only indicate the interesting train of thought which is developed in the later dialogues. Prof. Joël is here concerned to show that the nature of the experienced world is such as to admit the operation of the freedom which he advocates. He discusses the mechanical view of Nature, the principle of Causality, and the conception of Causal Freedom. Though Pragmatism, curiously enough, is not once mentioned in the book, yet if some of our pragmatist thinkers should read Prof. Joël's treatment of these topics they will find a great deal with which they are in cordial sympathy. Necessity and freedom, we are told, are human conceptions which are transferred to things, but things in themselves are neither free nor necessary. A law is not a principle immanent in objects but a rule which we apply to objects. The notion of mechanism is a humanistic growth—the outcome of technical science—which is applied to nature. A mechanism by its very nature is a means to an end, and the modern opposition of mechanism to teleology is quite false. In

the matter of causality it is rightly noted how much the content of the idea owes to our experience of personal activity. Joël's view appears to be that scientific causality is a methodological postulate by which we organise experience, not a principle immanent in things. The causal series must always be broken off, and the idea becomes scientifically useful only through limitation and selection. The effect is necessitated in relation to the cause, the cause is free in relation to the effect; and the will is that which can never be other than cause. It is purely arbitrary to make the necessitated side, represented by the effect, the only true conception of the relationship; without freedom there could be no necessity.

The gist of Joël's argument is to show that necessity, mechanism, causal connexion, as features of the objective world, are all conceptions which have their origin in the purposive life of man and stand for ways in which he manipulates his experience. He even says in one place, that it would be as true to call the world four or seventeen as unity; it is one just because we read our own unity into it. But if the world were destitute of unity, it is hard to see how a unitary consciousness could evolve in time and put such an interpretation on the world. It is no doubt tempting to regard the independent not-self as a kind of plastic $\psi\lambda\eta$ which will accept every postulate of the developing human consciousness. But if you are not to adopt the desperate device of saying we construct our world out of nothing; if your $\psi\lambda\eta$ is really to mean something; then you must admit it has a nature of its own, in virtue of which it responds to one interpretation and rejects another. And it must be accounted a defect in Prof. Joël's discussions that he does not deal with this difficulty explicitly, for that is necessary to the ultimate success of his own argument. On the whole the book is a fresh and earnest treatment of an old subject; and even where the reader does not agree with the writer, he will find him acute and interesting.

G. GALLOWAY.

A Text-Book of Psychology. By EDWARD BRADFORD TITCHENER.
Part I. New York: The Macmillan Company, 1909. Pp.
xvi, 311.

THIS is the first volume of a work which Prof. Titchener has written to replace his well-known *Outlines of Psychology*. In plan, it is modelled on the earlier book, but in other respects it is, for the greater part, new. It opens with a long chapter on the subject-matter, method and problem of psychology; the rest of the book, with the exception of the two concluding chapters on affection and attention, is devoted to sensation.

In the preface Prof. Titchener remarks: "The only point that calls for special mention here is, perhaps, the scant space accorded

to nervous physiology". He expects the student "to get his elementary knowledge of the nervous system, not from the psychologist, but from the physiologist". However, it is obvious that the book is written for a student ignorant of the requisite minimum of physiological fore-knowledge, inasmuch as space is found to describe the elementary structure of the sense organs,—but not until all the psychological facts have been given and the time for discussing theories of visions, hearing, etc., has been reached. We conclude then, that the student is expected to approach psychology wholly, or almost wholly, ignorant of the physiology and histology of the nervous system and sense organs, and that he is expected later to apply to the physiologist for further instruction. But we know that in America physiology is seldom studied as a pure science. It is ranked not with chemistry, physics, or biology in the faculty of science, but with pathology and human anatomy in the medical faculty. In consequence it may not be easy for the American student of psychology to obtain suitable instruction from the specialist in physiology.

Prof. Titchener's text-book contains a wealth of material drawn from and dependent on experiment. Nearly all first lecture-courses on psychology in America are similarly illustrated by demonstrations given by the lecturer. Experiments are not usually performed by the student until the following year; the majority of students only take the first lecture-course.

In England, as apparently in America, the student is introduced to psychology generally ignorant of the relevant portions of physiology and histology. From his first course of lectures the experimental aspect of the subject is, as a rule, entirely omitted. The course is commonly delivered by one who has had little training in experimental or physiological psychology, whose tastes lie too exclusively in the direction of ethics, logic and metaphysic for him to sympathise with the experimental method or to have troubled about physiological science. The course is too often regarded as a useful adjunct to philosophy rather than as an introduction to an independent science; it is made proportionately abstruse and difficult. Only later (in a very few cases concurrently) does the student have an opportunity of attending a course of lectures on experimental psychology, accompanied by laboratory work. Thus he comes to look on the experimental method as constituting a separate science which he may take up or dispense with as he chooses; while the knowledge which he obtains of the physiology and histology of the nervous system and sense organs depends entirely on the energy and thoroughness of the lecturer on experimental psychology.

Surely England and America have much to learn from one another as to the correct method of teaching psychology. The first year of the student's course should surely be devoted to the elements of physiology and anatomy and to obtaining a rapid sketch, in the

broadest outline, of the field of psychology. Then in his second year he should attend a general course on psychology with which an elementary laboratory course should be conjoined, and later he should have the opportunity of attending more advanced courses on the philosophical and applied aspects of the science.

Such are the reflexions which Prof. Titchener's work must prompt in the mind of any one who ponders over the best method of teaching the subject. It is only to be hoped that, whatever method be finally adopted, the text-books composed to meet it will be written with the same admirable clearness as characterises the present work. We propose here only to draw attention to those of Prof. Titchener's views which differ from views generally held by teachers of the subject. Prof. Titchener accepts only three classes of elementary mental processes, namely sensations, images and affections. "Effort, in whatever context we take it, proves to be analysable; it reduces to affection and sensations" (p. 282). The conative element is a "pretender". Elsewhere, he "hazards the guess that the peripheral organs of affection are the free afferent nerve-endings . . . distributed through the various tissues of the body. . . . Had mental development been carried further, pleasantness and unpleasantness might have become sensations . . ." (p. 261). Whether physiological evidence will ever be forthcoming in favour of this and the two following conjectures will to many appear doubtful. Prof. Titchener thinks it possible that the sensation of hunger "may, perhaps, be ascribed to tension of the stomach, caused by the engorgement of the mucosa with the digestive granules developed in the cells" (p. 188). He suggests that synæsthesia "may depend . . . upon an unusual elasticity of the walls of the cerebral arteries. On this view a rush of blood to the auditory centre might, owing to the extensibility of the arteries, be propagated to the visual centre; the hearing would be coloured" (p. 197).

A noteworthy view, held by the author, is that "mind is spatial: we speak, and speak correctly, of an idea in our head, a pain in our foot. And if the idea is the idea of a circle seen in the mind's eye, it is round; and if it is the visual idea of a square, it is square" (p. 17). The Müller-Lyer illusion, he maintains, shows that "mental experience takes on the spatial form as readily as physical experience" (p. 12).

Prof. Titchener usefully employs "the two terms, introspection and inspection, to denote observation taken from the different standpoints of psychology and of physics" (p. 24). But the meaning he attaches to introspection is unusual. For introspection, he maintains, is "precisely the sort of observation that an animal can make, if it has a mind at all" (p. 33); in experiments on animals, the latter are "made, so to say, to observe, to introspect" (p. 31).

There are some views which appear yet more difficult to reconcile or to accept; perhaps Prof. Titchener may think it advisable to

modify these in another edition. Thus on page 89, we are told "that twilight vision is extremely dependent upon dark-adaptation." but earlier (p. 80) we have read that "twilight vision is primarily dependent, not upon dark-adaptation, but upon the reduction of the energy of light. What dark-adaptation does is to make the greys of twilight vision much stronger than they are without it." Prof. Titchener admits that "at the very centre of the eye, there is no twilight vision, and the Purkinje phenomenon does not appear" (p. 79). Hence although he identifies twilight vision with rod vision, he believes that it is not really the consequence of any dark-adaptation. Surely this is contrary to accepted evidence.

Prof. Titchener denies that blue-yellow blindness is ever congenital and ascribes all cases of total colour-blindness to the absence of cone-vision (p. 85). He considers noises to be "sober and monotonous," tones to be "variegated and of manifold quality" (p. 93). He gives the usual sketch of Stern's variator which is now on the market, but states that its pitch may be varied "through the introduction or withdrawal of mercury" (p. 100), whereas in this type of instrument neither mercury nor any other liquid is employed.

The following paragraph also appears to call for revision. "It is an universal rule in psychology that, when sense-qualities combine to form what is called a perception, [but can perception be said to be a combination of sense-qualities?] the result of their combination is not a sum but a system, not a patchwork but a pattern. The parts of a locomotive form a system; the colours of a carpet form a pattern: in neither case is there a mere heaping together of materials. The same thing holds of perception. Hence, just as it would be absurd to say that the plan of the locomotive is a new bit of steel, or the pattern of the carpet a new bit of coloured stuff, so it is wrong to say that the peach-character [*is this a perception?*] of a certain taste-blend is a new taste quality. This character shows us the pattern of the blend, the specific way in which the components are arranged [*does it?*]; it is not itself a sensation [*? sense quality*]" (p. 135). I have commented, within square brackets, on the difficulties which these sentences present to me.

Prof. Titchener teaches that "there is no such thing as a specific movement sensation" (p. 167). According to him, it is only by virtue of the association of articular sensations with visual perceptions of movement that we are able to obtain imagery of limb-movements, even with closed eyes. Similarly we only perceive position of the limb by virtue of the association of the visual image of position with the complex experience derived from tensions and compressions in the ligaments of the joints. The question naturally arises in the reader's mind—what experience of movement and position of the limbs have the blind?

In finding a sweet solution *b* of such strength that the difference in sweetness between it and a weaker solution *a* seems equal to that

between it and a stronger solution c , we have, according to the author, bisected the distance ac , and are at liberty to write $ac = 2ab = 2bc$ (p. 209). We have measured off "distances along the straight line which includes all the intensities of sweet" (p. 203). Here Prof. Titchener neglects the various studies from the Göttingen laboratory upon the complex conditions attending 'mean gradations'. In the reviewer's opinion he forsakes the introspective for the mathematical standpoint.

Some, however, of the above quotations involve a difference rather of outlook than of fact. They have been introduced in this notice to show where the author appears to differ from many of his fellow-workers in the subject. For clearness of exposition, as we have already remarked, and for coherence of argument, the book is probably unrivalled. It will prove a worthy successor to the author's popular *Outlines of Psychology* and is valuable as embodying the views of one who has had many years' experience and success as a teacher, and whom England may justly be proud to have sent to play so prominent a part in the development of psychology in America.

C. S. MYERS.

The Teacher's Handbook of Psychology. By JAMES SULLY, M.A., LL.D. New (fifth) edition, re-written and enlarged. London: Longmans, Green & Co., 1909. Pp. xix, 606.

THE first edition of this work was reviewed by Prof. Carveth Read in *MIND*, O.S., xi., 577. Of the revisions it has undergone, the present has been the most elaborate; it is now between one-sixth and one-fifth larger than in the fourth edition. In recasting most of the chapters, as the author tells us, he has been assisted by younger men. Chapters ii. to x., in particular, have been revised by his son, Mr. Clifford Sully, and nearly all that is new in them has been contributed by him. Prof. Sully is to be congratulated on the result; for the new and interesting detail has found its place without in any way injuring the organic character of the work. In comparing the fifth edition with the first I can only admire the way in which the rewritings have been carried through so as to make what was in its original form an excellent book still more readable and alive at all points.

In the interval of time since 1886 the author has seen no reason for any fundamental change of doctrine. While assigning due importance to physiology, he finds that the biological view takes us only a little way. Essentially what is distinctive of psychological method is introspection, and this is put foremost. On some of the controversial points that have emerged, he takes the unfashionable side. He declines, for example, to have any share in "the effort to eject feeling from the psychological niche which it first won

through Kant" (p. 149, Note D). In physiology, the nervous functional unit is allowed to be "the sensori-motor arc" (p. 24). But "we cannot make much direct use of this conception of the arc—except in a modified form—in our psychology". "For analytic psychology . . . the conception of the arc becomes replaced by that of the tripartite division of consciousness" (pp. 28-29). And, purely theoretical as this question seems, it has a bearing on education. The division, "thought, feeling, will," of which each phase is allowed to have irreducible characters of its own, tends to support disinterested culture as against the notion that education is wholly for practical activity—in whatever extended sense this may be conceived. "Psychology must back up the fighters for culture-studies, and it can best do this by insisting that the bisectional scheme of living—sensing and perceiving followed by doing—is wholly inadequate to man" (p. 50). Again, in a later note (Note A, pp. 508-509), the claim of feeling to a separate place is reasserted. The view upheld by Prof. Stout in *The Groundwork of Psychology*, that feeling is a phase of, or incident in, conative process, is traced to a "natural reaction" against "the hedonistic psychology of Bentham, Bain, and others," which taught that all voluntary action aims at pleasure or the avoidance of pain. From this point of view a certain relative truth is admitted in it; but in the end the balanced position is maintained, that while conation also is original and not wholly explicable from intellectual process along with feeling, feeling (that is, ultimately, pleasure and pain) is also original and not wholly explicable from the other two phases.

Here I have found some interest in observing that the most recent view has been anticipated by Neo-Scholastic doctors in two German works (by Joseph Jungmann and Vincenz Knauer) briefly noticed in *MIND*, O.S., x., 623. Their watchword was,—Back from Kant, with his tripartite division borrowed from Tetens, to the scholastic division into intellectual and active powers. Feeling, denied a fundamental position, was to be explained by interaction of body and "pure will". In detail, of course, this is incompatible with the usual view of modern psycho-physics, which rules out the dualism of mind and body; but it has noteworthy points of contact; and it raises the question whether, by a roundabout process, the newer developments are not preparing a revival for the idea of a "separable intelligence" in man. Let us suppose the brain with the rest of the nervous system reduced wholly to a congeries of "sensori-motor arcs". Since the human mind, as Prof. Sully (I think, irrefragably) holds, cannot be reduced to parallelism with this, it must follow that the mind is not wholly represented in the nervous system. A view of this kind is maintained by Bergson (see *Matière et Mémoire*); who, conceiving the brain as merely an "apparatus for action," marks off "pure memory,"—that is, memory of past events arranged in a time-series,—as unrepresented therein. And Prof. Sully himself, though never diverging into

metaphysics, and in the present work accepting the ordinary position of physiological psychology, that "every mental event is a psycho-physical process" (p. 4), has before now found occasion to point out the absolute failure of physiology so far to show any conceivable basis in nervous process for the assignment of memories to an order of sequent events. Taking this psychological conclusion as absolute, Bergson has formulated, with a sharpness not reached by similar positions before, the thesis that for the active memory which is a kind of "habit"—as in reciting a poem when the first words are given—a physiological basis is assignable; but not for the distinctively "contemplative" memory,—illustrated by the recollection of having learnt the poem by heart at a certain definite time.

This (which is something of a digression) suggests that views we associate more or less with the fashionable pragmatism may have unexpected developments. Pragmatism itself, however, I do not take to be derived from any psycho-physical point of view, but rather to have its cause in a sociological reaction due to the intense life of commerce. A kindred inclination has been recently noted in some historians to hold that everything is and always was fundamentally business. To the corresponding educational theory Prof. Sully gives no countenance. "The child is not wholly a pragmatist . . . he shows his superiority to the out-and-out practical animal in the possession of a germ of a love of knowledge for its own sake" (p. 434). "The exhibition of a precocious pragmatism in the young, as in the recurring question, 'Of what use is it?' must be met by emphasising more and more as intellectual progress advances, the intrinsic desirability of knowledge. A teacher may even be absolutely right in insisting in certain cases on the uselessness of much that is learnt, save as a source of pleasure and as a qualification of the educated man capable of entering into full possession of the rich fruits of civilisation" (p. 442). An education in this spirit might have the advantage of checking the tendency of journalists to put the young pragmatist's query to men of science.

On one point I notice in the new edition a change of stress. In the first edition the insistence was especially on the danger of over-taxing the youthful intelligence. While this is still kept in view, what is now insisted on is rather that it is not desirable to make everything too easy and immediately interesting, but that habits of serious intellectual attention ought to be formed early. And it is more decisively declared that a child whose brain is not appropriately exercised is apt to suffer from *ennui*; that mental work—of the proper kind and amount—is essentially wholesome for normal children (p. 35, cf. p. 365). Again (p. 145): "Of the importance of avoiding the bugbear of monotony and of introducing freshness and variety in mode of treatment, it is perhaps no longer necessary to say much to the teacher. What is more important to-day is to emphasise the need of avoiding too frequent and flighty movements

of attention from one subject to another, of training the young mind in a long and sufficiently sustained mental effort." The reason for this change of stress seems to be a suspicion that the contemporary growth of a taste for inane and trivial reading may be partly accounted for by education made easy.

A chapter that deserves special praise is the twentieth, which is wholly new. Here an impartial account is given of the results of psycho-physical research as regards variations of individual type. Something, it is admitted, has been done to determine the range of individual variation; yet we must remember that "the range of experimental investigation in psychology—relatively to that of psychological inquiry as a whole—is still an exceedingly small one". In consequence of this limitation, "from the laboratory point of view, a child's mind is apt to appear, not as an organised complex whole, made up of related forms of intelligence, etc., but as a bundle of isolated potentialities for acquiring readiness in performing what to the outsider look like highly specialised knacks" (pp. 570-571). Hence a tendency, going far beyond the faculty doctrine, "to resolve mental activity into an indefinite number of quasi-atomic processes," the foundation being a further exaltation of the "nervous arc" (Note C, pp. 580-581).

At the end of the chapter, accordingly, a study of concrete individuality is recommended as a supplement to the newer experimental inquiry. For the teacher, what is especially important is some knowledge of works on character, such as those of Binet and other recent French writers. The kind of insight here aimed at is as important practically as theoretically, and for the community as for the individual child. The school, Prof. Sully impressively declares, "will lose its title as humaniser if it does not make a fight for that precious thing, individuality". It is a satisfaction to find so distinguished a psychologist and educationist thus again taking up the cause for which, as he reminds us, some of our own great writers have pleaded, and adding that: "Perhaps it is hardly less necessary to-day than it was just fifty years ago, when J. S. Mill published his essay, *On Liberty*, to urge the claims of a full development of what is good in the individual's special and distinguishing groups of capacities and tendencies" (pp. 577-578). "A deeper appreciation of the worth of individuality will lead the teacher"—agreeing, as he notes, with the educational ideals of the Herbartians—"to foster it indirectly by influencing the tone of the school and working against the powerful tendency of the crowd-mind to suppress all divergence from the common pattern of ideas and sentiments."

T. WHITTAKER.

VII.—NEW BOOKS.

Natural and Social Morals. By CARVETH READ, M.A. London :
A. & C. Black. Pp. xxv, 314.

PROF. CARVETH READ's new book is precisely of the type which is apt to be most baffling to the reviewer. It is full of discussions of interesting questions, and thickly strewn with striking observations and reflexions, but it has either no easily presentable main argument, or one which the present writer has found himself unable to grasp. The main impressions he has carried away with him from careful perusal of the book are three, that the author is inclined to a pessimistic and slightly cynical judgment on the moral theory and practice of his countrymen, that he sets great store by Eugenics as suggesting possibilities of systematic moral improvement, and that he, like Aristotle, regards Philosophy itself as the chief good. If there is any further internal connexion between these positions, I have failed to discover it. Indeed I am frequently at a loss to discern any connecting thread between the topics dealt with in the scope of a single chapter, such *e.g.* as that on the *Influence of the State on Morals*. Much of Prof. Read's work gives one the impression of having been designed in the first instance as short essays on isolated topics and then put together into longer chapters with little attempt to produce a whole having "beginning, middle, and end". Thus, to take the chapter I have already referred to, I find there a variety of rather satirical sketches dealing with such questions as the alleged immorality of diplomatists, the evil effects of the party system in politics, the abuses of despotism, and the like, but no serious attempt to exhibit any connected view of the relation of governmental institutions to private morality. Possibly this lack of clearness about ultimate principles, which I think the attentive reader will allow to pervade the book as a whole, may be connected with the writer's horror of "metaphysics". For, after all, you cannot treat morals philosophically without a central conception of the good which is rather less of a come-by-chance than the identification of it with Philosophy is made to appear in the present work, and any conception of the good is bound, from the necessities of the case, to be metaphysical. It may be that it is just because Prof. Read is so afraid of metaphysics that he seems first of all to pick up the view that Philosophy is the chief good from no one quite knows where, and to give it as little more than an expression of personal predilection, and then to drop the whole conception out of the rest of the book. One would expect that the whole of a philosophical theory of conduct would be permeated by the author's convictions about the good, but, in point of fact, all but the first forty or fifty pages of the present book would remain unaffected by the complete rescission of the view set forth at the beginning that the good is Philosophy. Of the other metaphysical convictions expressed in the book I do not propose to say much. The doctrines that Nature is not a realm of purposes and that all science, including moral science, is knowledge of causal laws, are treated as already established in the author's

Metaphysics of Nature, and it is therefore not in place to examine the grounds on which they are advanced here. I would, however, merely suggest that it is pertinent to ask whether the proposition "Philosophy is the chief good" asserts a causal relation. If it does, must it not be false (*i.e.* must Philosophy not be a mere means to certain effects?); if it does not, what place has it in a science which is a body of "causal laws"?

On one further metaphysical assumption I must make a passing remark. One of the chief blessings which we owe to Philosophy, we are told, is that it delivers us from the "illusions of individuality," and the writer himself feels that it is no easy matter to reconcile this saying with the insistence he himself lays on individuality as the thing of chief worth in the moral world. His way of reconciling ethical Individualism with the Humian doctrine that we are not really individuals at all is at least singular. "The reason is that differentiation, which is the basis of the illusion, is the condition of all development of organic life. Its illusoriness is due to this, that before the rise of self-consciousness . . . differentiation from the species has already taken place; so that to self-consciousness nothing but the individual is ever known" (p. 213). This seems to be an awkward way of saying that we are conscious of ourselves as individuals because, whatever we may have been in the dim past, we *are* individuals before we are self-conscious. If this is a fact, where does the "illusion" come in? Has Prof. Read ever so much as asked himself *whose* illusion Mr. Carveth Read is? Who dreams him, if it is not an uncivil inquiry?

Perhaps the most interesting part of the book to many readers will be that which deals with the possibility of Eugenics. Though here, as elsewhere, the author seems to me to vacillate between an optimistic and a pessimistic view. At times he writes as if we might look forward to the scientific breeding of morally good qualities under the guidance of a Government Board of experts; at other times he seems to hope for little more than the elimination of the habitual criminal by life-long segregation, and a certain enforcement by the private conscience of the duty of avoiding marriage into a family with bad antecedents. This more modest anticipation, I take it, represents the author's real view, since the positive breeding of good qualities would involve a thorough-going socialistic administration of affairs, and there is nothing which provokes Prof. Read to anger more than any suggestion of compromise with Socialism. Not to add that direct breeding for moral results would be made almost impossible by the simple consideration that our original "tendencies" only become, for the most part, good or bad by the direction they receive in the individual's education. *E.g.*, if you bred for the production of amiability of temper, you would run the risk of breeding out resentment, and resentment, properly directed, is a most valuable moral asset. Even the caution not to mate with "rascals" needs to be taken with a large grain of salt, since the very qualities which, misdirected, made the "rascal," may when modified by admixture with others and by right education go for much in the making of an efficient honest man. Even taking what I believe to be the author's real view, we may still, I think, maintain that there is more to hope from the education of the individual in the social responsibilities implied by marriage than from the prevention of the propagation of habitual criminals. By the time your habitual criminal has been recognised for what he is, the mischief has probably been done. In general I would suggest that possibly too much stress is commonly laid on direct heredity and too little on the unconscious educational influence of early social surroundings. A real Oliver Twist would probably have become a thief, not because he was the son of thieves, but

because life in Fagin's Academy would imperceptibly have taught him, as the Dodger put it, to "scorn to be anything else".

I should note it as a defect in Prof. Read's accounts of historical development that he is unduly prone to accept as facts the extravagant fables of hypothetical anthropology, and at the same time rather blind to the facts of certain history. Thus Dr. Frazer's wild theories about the annual "killing of the king," which, to say nothing of their inherent improbability, hardly rest on a scrap of real evidence, are accepted as undoubted facts and employed to explain, among other things, the origin of tragedy, while real historical facts are perverted. Thus, of the mediæval Church we read that it "so controlled the ignorant and superstitious barbarians who possessed the temporal power as to make them the servants or tools of oppression" (p. 242). And again (p. 243): "In the history of Christianity this opposition (i.e. between religion and philosophy) produced numerous heresies; but in about five centuries the heresies all seemed to be suppressed and philosophy with them, and the system that we know as Romanism was established". What is one to make of history of this kind? Has Prof. Read never heard of St. Thomas of Canterbury, or of John Ball or Jack Straw, or of the incessant conflicts of the Middle Ages between the secular and ecclesiastical authorities? Does he really include the Hohenstaufen Emperors among the "ignorant and superstitious barbarians" of the former sentence? Does he seriously think that heresy did not exist until 500 years before the Council of Trent, or that "philosophy" was only to be found on the heretical, and never on the orthodox side? So we are told in another place that "all great ideas originate in towns," and we naturally ask whether the author of such a dictum has ever heard of the prophets, or of the preaching of Jesus or of Mohammed. Or again we read that the author cannot "think of a case" in which a people has permanently benefited by being conquered, that "where there has been no enslavement . . . peace has been dearly bought with effeminacy". And we wonder whether the cases of which he has thought include the Roman conquests of Gaul and Spain, or Charlemagne's conquest of the Saxons, or our own conquest of French Canada. Indeed, Prof. Read seems far too prone to indulge in fanciful *obiter dicta*. Twice over he credits Aristotle with the absurd remark that "whatever the law does not command it forbids," and, as if to invite refutation, in one of the places he gives his reference. On looking up the reference we see that Aristotle is talking of the special case of homicide, and that his meaning is the perfectly sensible one that "any homicide which the law does not expressly permit (the rendering of *κελεύει* in the formula by 'commands' is a mere blunder) it must be taken to forbid". (E.g. the law says you may kill your wife's gallant if you catch him in your house. But suppose you find him in the street and cut his throat; is this justifiable homicide? No, because the case of killing him in the street is not specified by the law as one in which the act is permitted; it is therefore understood to be forbidden by the general prohibition of homicide.) Again Aristotle is declared to take an "ego-altruistic" view of conduct, because he insists that right acts are to be done "for the sake of τὸ καλόν," and this is interpreted to mean, because other people will think you a fine fellow for doing them. Prof. Read ought to have remembered that Aristotle expressly rejects the view that 'honours' and 'distinctions' are the true end of life on the ground that "honour depends rather on the bestower than on the recipient, whereas we all feel that the good is something which belongs to a man's self, and cannot easily be taken from him". Is it too late, by the way, to protest against the corruption of the language by such bastard jargon as "ego-altruistic"? Mr. Spencer, it may be said, must bear the

blame for this particular horror, but "geo-political" looks like the author's own invention, and I hope his patent in it will not be infringed.

A. E. TAYLOR.

Studies in the Teaching of History. By M. W. KEATINGE. London: A. & C. Black, 1910. Pp. viii, 232. 4s. 6d. net.

In addition to its value as a text-book for professional teachers this volume has a special interest as illustrating the struggle between two views of the nature of the psychological basis of teaching in general. If the Neo-Kantian point of view is adopted it is usually maintained that the mind is the source of all activity; while if we follow the Neo-Herbartians we are driven to regard the ideas as themselves a source of activity, if not the sole source. Bluntly put, the issue is: does the mind create the ideas or the ideas the mind? Mr. Keatinge tells us that most psychologists adopt a middle position between the ego-psychology and the idea-psychology. He himself leans towards the Neo-Kantian view, but cannot bring himself to discard the other. As a matter of fact the confusion between the two points of view results largely from the needs of exposition, particularly when one is dealing with educational problems. Teachers who have never heard of the almost totally passive mind of the Herbartian psychology speak quite naturally about the activity of ideas, and of ideas acting upon the mind and even upon each other. Mr. Keatinge himself recognises the importance of the demands of exposition in deciding between the two kinds of psychology: in his own words, "for the ego-psychology, attention is the turning of the mind in a certain direction; but in this case it is difficult from the ego-standpoint to carry description or explanation any further".

But if the Neo-Kantians have to call in the aid of the Neo-Herbartians when it comes to explanation from the point of view of the teacher, matters are reversed when we come to explanation of mental process. Atomistic philosophers of all kinds are sooner or later driven back upon the necessity of assuming some bond of connexion. The assumption may be frankly made or it may be merely insinuated, but it is always there. Granted a mind of some sort there need be no great difficulty in explaining the genesis of ideas, though much discussion may arise as to the relation between the ideas and the outer world. So far as ideas are dependent on the mind alone they may be manipulated by the teacher through an appeal to the mind, irrespective of what is called subject-matter. But we can hardly agree with Mr. Keatinge when he says: "There is no hint in any of the Neo-Herbartian writings that any activity peculiar to the subject-matter is to be demanded from the pupil or that the virtue of the information may depend upon the manner in which it is acquired". One of the commonest complaints against the Neo-Herbartians is their excess of zeal in regulating the order in which presentation is to be made. The Formal Steps are a standing proclamation of the importance attached to the manner in which information is to be acquired.

The effect of the conflict of the two psychologies is naturally manifest in the discussion of the vexed question of formal training. Here Mr. Keatinge gives a somewhat uncertain sound. On page 33 he appears to recognise the feebleness of the arguments for formal training: "The argument from formal training is a weak and crumbling support". Yet throughout the book there are references that seem to recognise formal training as something real and valuable. "Subjects that give opportunity for prolonged effort are likely to cultivate the habit of persistency, and this habit acquired during schooldays will tend to promote strength

of will in after-life": "while the formal training to be derived from history is overlooked by the Herbartian it is strongly insisted upon by the Neo-Kantian" (and Mr. Keatinge leans towards the Neo-Kantian position): "It [any subject of school study] should thus give him some mental training while at the same time adding to his stock of ideas". The truth is that a certain appearance of inconsistency is inevitable in dealing with this subject, on account of the varying degree of resemblance among the different subject-matters. There is always a certain amount of "spreading" of the facility that comes from familiarity with a particular class of facts. The danger arises when a specific power is assumed to be trained by a special kind of subject-matter. For example, when we are told that "the masters of preparatory schools as a body are convinced that apart from the actual knowledge gained, the process of gaining it [a knowledge of history] helps to strengthen memory," we feel that the masters of preparatory schools are standing in slippery places. Though he quotes this statement from Mr. A. M. Curteis, our author takes no responsibility for it, and his well-known familiarity with current psychological discussions is proof that he does not mean this particular kind when he speaks favourably about formal training in general.

When we consider the nature of the subject-matter of history we find that there are two aspects that strongly appeal to Mr. Keatinge. On the purely educational side there is the question of direct moral instruction, on which he is well known to hold strong views. Working from his knowledge of boy nature, and particularly from the contrariance that he finds there, he vigorously upholds the view that moral instruction should be as indirect as possible. While there is sound argument in what he says it may be contended that he has rather neglected an element that is of fundamental importance. Boys may have a natural tendency to take up exactly the opposite point of view to that imposed upon them from without. But the indirectness of presentation that Mr. Keatinge recommends owes its success not entirely to the evasion of inherent contrariness, but also to the positive satisfaction that accompanies self-activity. By presenting premisses while leaving to the pupil the work of drawing the inevitable conclusions, the teacher enlists not only the passive non-resistance of his pupils, but their active co-operation. No one knows better than Mr. Keatinge the driving power of suggestion, and one is a little surprised that he has not given it greater prominence in discussing indirect moral instruction through history.

On the side of pure teaching Mr. Keatinge is obsessed with an almost morbid fear of the easy and the interesting. Over and over again he warns us against the danger of history becoming an "easy option," and for a "soft pedagogy" he has a healthy contempt. From one holding these views it might be fairly demanded that he should give a reasoned statement of the theory of interest on which he founds. In the absence of such a statement one would be tempted to suspect that Mr. Keatinge had fallen into the too common error of limiting the term *interest* to pleasurable interest, were it not for the fact that in the more technical parts of his book he provides admirable illustrations of the legitimate application of interest to the work of the history lesson. Any teacher who follows the precept and example of Mr. Keatinge will find himself giving lessons so interesting as to suggest the danger noted in the text in the words: "the subject-matter tends to be too attractive". But the real interest of well-taught lessons lies not in the mere subject-matter, but in the work put in by the pupils themselves. Their self-activity is stimulated to the uttermost, and the resulting interest, so far from leading to relaxation and flabbiness, stimulates to still further effort. Mr. Keatinge's statement of

the theory of interest may be somewhat incomplete: his practice is all that could be desired.

JOHN ADAMS.

The Principles of Religious Development. A Psychological and Philosophical Study. By GEORGE GALLOWAY, M.A., B.D., D.Phil. Macmillan & Co., 1909. Pp. xiii, 363.

Dr. Galloway's new book is one which a reader who, like the present reviewer, is in sympathy with its fundamental positions will tend to sum up with the statements that it is "agreeable" and "judicious". I do not know that there is anything very novel either in the account of the psychological development of the religious spirit, or in the metaphysical discussions of the concluding chapters which treat of God as the "ultimate ground of experience," and of the familiar outstanding problems of sin, immortality, and the goal of human development, but, at the same time, the author shows a balanced judgment and a readiness to consider the facts of human experience as a whole which are conspicuously absent from many more pretentious works on the same subjects. And it is at least arguable that a lack of that sort of originality which consists in reckless one-sidedness is a real merit. I would particularly commend for their sanity chapters iv.-vi., which exhibit in the clearest way the impossibility of reducing religious life to a mere expression of a single type of subjective attitude to our environment, to mere feeling, mere thinking, or mere blind conation. It is well done to insist, as the author does, that religion, like every other characteristic manifestation of the human mind, is a reaction of the whole man, and not merely of one side of his nature, upon his whole environment. And it is, perhaps, even better done to drive home the truth that there is no such thing as an "evolution of religion" or of "art" or of what you will in human life, unless you mean by these terms an evolution of individuals who are religious, artistic or what not, and that consequently the historical development of types of religion has throughout been part and parcel of the general development of man, and subject to all sorts of influences of an extra-religious kind.

It is the neglect of this consideration which lies at the bottom of all attempts in the manner of Hegel to represent the historical succession of philosophies or religions or moralities as a process carried on purely from within and moving in virtue of an immanent logical necessity. The real worth of Dr. Galloway's treatment of these points should not be overlooked, as in these days of self-advertisement it runs some danger of being overlooked, in consequence of the scholarly modesty and sobriety of his style. He sounds no drum before him, and never says by implication to the reader: "Listen to me, and I will tell you something you never in your life heard before," but he has really much more to tell than most of those who adopt these cheap-jack methods of attracting an audience.

I do not mean to say, of course, that I agree with the author on all the details of his exposition. I cannot feel sure that Totemism has played quite the important part he assigns to it in religious development, nor yet that his refusal to deal seriously with the alleged evidence for the existence of belief in "high gods" among some quite low savages is not over-hasty. Altogether, I could desire that more attention had been given to the views of the less fanciful among anthropologists, for example, Mr. Lang, or Eduard Meyer, in the anthropological introduction to his great *Geschichte des Alterthums*, and rather less to the brilliant and erratic constructions of Dr. J. G. Frazer. And I am sure that Dr. Galloway falls into some positive mistakes, as *e.g.* when he ascribes to Epicurus

the belief that *fear* is the source of all belief in gods, or infers from Plato's *Euthyphro* that the "current" Hellenic conception was that piety is a "science of asking and receiving". *Primus in orbe deos fecit timor* is not an Epicurean maxim, and the conception of piety as a "science," of which the object has to be determined, is, as the very word "science" shows, a piece of Socraticism, not a popular notion. In fact, the definition is sound Platonism, and the error of *Euthyphro* lies not in accepting it, but in holding a false conception about the things which it is right to "ask and receive". (So in the Academic collection of *ῥῆγοι*, Piety is defined in several ways, one being that it is "the science of honouring the gods," and another that it is "justice in relation to gods," justice itself being, according to the same authority, among other things, "a habit of assigning to every one his desert".)

With the speculative views of the last two chapters I can do little more than express my general agreement. I am glad that Dr. Galloway is so decided on the point that a principle of synthesis between personal wills must be itself a personal will, though I do not fully understand why a writer who holds so fast to this conception should regard it as beyond the power of logical analysis to justify the ascription of moral excellence to God, and fall back at this point, if I understand him rightly, on faith. It is, no doubt, true, that "perfection" in the sense of completeness of structure, is not the same thing as perfection of spiritual character (p. 302). But when completeness of structure is applied to a ground of existence which has already been declared to be an intelligent Will, can we separate the two notions in this special case? Can a "structurally perfect" will have any object but a supreme and all-inclusive good? If not there is no ground for the distinction between a perfection which we are justified by Metaphysics in ascribing to God, and a perfection which we can only assert of Him by an act of faith.

Dr. Galloway's discussion of Immortality seems to me at once judicious in its character and sound in its result. I would only suggest that the result ought hardly to have been described on page 340 as a "line of thought which Kant opened out". In its main tenor it is not very different from the pronouncements of Plato's *Timæus*. I am also not sure that Dr. Galloway is not unduly optimistic in his apparent abolition of Hell (see especially the first sentence of p. 333). I do not see how he gets rid of the possibility that an immortal soul might become so inured to evil by repeated choice of it as to lose its capacity for good without ceasing to exist on that account. At any rate, I cannot agree that the cause of right living would gain if every man, no matter what his life had been, had a "sure and certain hope" that—to quote Dr. Galloway—"when he crosses 'the low dark verge of life' he goes to meet the dawn of a new day".

May I offer, without offence, one remark on a point of language? Why will our writers about religion persist in using the unscholarly word "syncretism"? Can it be that they fancy it has something to do with *σύγκρασις*? If Dr. Galloway will consult his Liddell and Scott he will see that "syncretism" is just about as suitable a name for the process it is nowadays used to denote as "Pan-Slavism" or "Liberal Imperialism," or "Customs Union". Why the identification of deities from rival Pantheons should ever have been called a "federation of Crete," I do not know; I am sure it is high time some less absurd name should be devised.

A. E. TAYLOR.

Psychology and the Teacher. By HUGO MÜNSTERBERG. New York and London: D. Appleton & Co., 1910. Pp. xii, 330.

Psychology and the Teacher completes the trilogy of Prof. Münsterberg's popular works upon applied psychology; the *Psychology and Crime* appeared in 1908, the *Psychotherapy* in 1909. Part i., Ethical, discusses the aims of teaching. These cannot be deduced from biology or psychology or sociology, or indeed from any science of facts. The attempt to pass from fact to aim has led education woefully astray—witness the treatment of imitation, of memory, of attention; witness, more especially, the absurd conclusion that, because the interesting thing holds the attention, the child should be required to do only what titillates his taste and attracts his fancy: as if the education of a child consisted in his illustrating the psychological laws of interest! The aims of teaching must rather be sought and found in the realm of human purpose, by appeal to ethics; "education is to make youth willing and able to realise the ideal purposes". At this point the author gives a popular exposition of his philosophy of the eternal values.

Part ii., Psychological, entitled *The Mind of the Pupil*, seeks to induct the teacher into the methods whereby the aims already formulated may be attained. Here, of course, is the crux of the book. The teacher is to exchange the personal attitude of appreciation, interest, sympathy for the attitude of scientific psychology, analytical, observational, explanatory. How is the gulf between the two attitudes to be bridged? By what the writer calls the 'strictly biological point of view'. In adopting this view, "we do not leave the consistent standpoint of the scientific naturalist, for whom everything in the world is the effect of causes. The reference to the ends of life does not mean at all a change of standpoint. It accepts only those principles of explanation which have shown their incomparable value throughout modern biology. . . . The biologist demands with reference to the human beings as well [as the lower animals] that every function be explained by the service which it performs for the conservation of man. . . . The chaos of brain cell functions and of sensations and affections is now completely organized. We understand their connexions and developments in so far as we understand their necessary rôle in the process of motor reaction. The individual is an organism which adjusts its reactions to its surroundings." There follow eight chapters of this biological or motor psychology, dealing respectively with apperception, memory, association, attention, imitation and suggestion, will and habit, feeling, and individual differences. No one will dispute the skill with which Prof. Münsterberg handles his topics. Whether one agree that he has solved his general problem depends, however, upon acceptance or rejection of the initial standpoint. The present reviewer cannot believe that 'usefulness' is an adequate term of explanation in a mechanical science, and holds in consequence that the problem has been avoided instead of solved. A biology that explains by reference to use is simply not a scientific biology. Use is at best a convenient catch-word, holding together a number of observed causal relations and pointing forward with some degree of probability to relations as yet unexamined; and, even so, it is neither exhaustive nor universally reliable.

Part iii., Educational, deals with the *Work of the School*. The child must acquire knowledge, must be trained in activity, and must be filled with enthusiasm; and every one of these functions must be directed upon experience in its threefold aspect, as experience of nature, of society, and of self. The concrete discussions of this part, discussions of the curriculum, of school organisation, of the teacher, etc., are con-

cerned with American conditions, and need not here be traced in detail, though they contain much of general interest to educators.

On the whole, the book is brilliant rather than profound, stimulating rather than satisfying. It is the expression of a militant personality, and not a sober or balanced account of the present status of educational psychology. An intelligent reader will gain a great deal from it, but only if he give his intelligence free play; it is not meat for babes. The indefatigable author promises a further volume, upon Psychological Didactics, which shall work out in systematic fashion the psychological implications of the higher studies.

P. E. WINTER.

The Principles of Pragmatism: A Philosophical Interpretation of Experience. By H. HEATH BAWDEN. Boston and New York: Houghton, Mifflin & Co., 1910. Pp. x, 364.

What gives great interest and value to Prof. Bawden's book is that it forms the first continuous survey of the metaphysical field which has issued from the camp of the Anglo-American pragmatists, and as such it may even excite expectations it was hardly designed to fulfil. For though its title might lead one to expect that the *principles* of pragmatism would receive systematic, critical, and technical exposition, the author has exhibited rather his personal reaction upon the new doctrine, and given his personal version thereof in (fairly) intelligible language, at the level of semi-popular thought. The book, in short, is evidently the outcome of what was probably an interesting 'course' in an American university. On the principles of pragmatism themselves and the profound controversial issues which they involve it says nothing new, and even as regards their corollaries and applications it says little that has not been said, at least implicitly, already, though of course the putting together of what had only existed in a scattered form before produces a decidedly impressive effect. The author's standpoint is nearest to that of Prof. Dewey among the pragmatist leaders, though it would probably be unsafe to attribute all his views to the latter. But he contrives to throw a good deal of light on Dewey's more technical terminology, and successfully defends his immediatism against the ever-recurring charge of subjectivism, bringing out well the essentially scientific basis of the continuous reconstruction of beliefs which is the life of science. The other pragmatists have in general been less successfully assimilated, though the emphatic recognition (pp. 239-240) that reality is *Value* does not seem to come from Prof. Dewey. Its importance is well brought out, and it is developed in an original way. The account of the pragmatic conception of Causation (pp. 285-289) is also suggestive, and involves a perception of the vitally important fact that the 'effect' as well as the 'cause' is a product of our selective interest and in this sense man-made. But it should have been added that, if so, the totality of the antecedents can *never* be the legitimate ideal of causal explanation, and that the conception of cause as identity is theoretically invalid, and therefore scientifically worthless and philosophically unmeaning. For if in selecting the 'effect' to be inquired into we have deliberately abstracted from the whole, it can never be a relevant answer to allege the whole as the 'cause' we are interested in, while to state what intellectualism must regard as the true 'cause,' and to say the world as a whole (as effect) is caused by the world as a whole (as cause) reduces itself to a mere tautology.

From a critical point of view it is regrettable that Mr. Bawden should not give exact references when he quotes, the more so that the practice

has on at least one occasion led him curiously astray. On page 258 he cites a "Professor Stuart" as the author of a passage from the essay on "Axioms as Postulates" in *Personal Idealism* (p. 105). Now if Mr. Bawden had attempted to give references, he could not but have discovered this mistake. A similar conflation of his authorities may be suspected on page 293. And on page 161 he gives himself away to the carping critic by speaking of a "tensional hypothecating (*sic*) attitude". Who after this will not feel that Mr. Bawden offers no security that he is not capable of 'thinking stillicide a crime and emphyteusis a disease'? But these minor blemishes do not prevent his work from being a timely contribution to pragmatic literature.

F. C. S. SCHILLER.

Anti-Pragmatism: An Examination into the Respective Rights of Intellectual Aristocracy and Social Democracy. By ALBERT SCHINZ, Ph.D., Associate Professor of French Literature in Bryn Mawr College. London: T. Fisher Unwin, 1910. Pp. xiii, 317.

It was only to be expected that M. Schinz would translate his *Anti-pragmatisme* into English, and to be hoped that he would improve the opportunity to defend himself against the grave strictures passed on his competence by many of his reviewers, and especially by representative pragmatists (cf. *Phil. Rev.* and *MIND* for July, 1909, and *Journ. of Phil.*, vi., 11). Accordingly he has added an appendix to answer criticisms, and devotes several pages in it to those of the present writer (*MIND*, No. 71, pp. 423-429). The results certainly throw light on the mental processes of M. Schinz.

(1) He continues to rest his case for the identification of pragmatism and irrationalism, despite the most explicit repudiation of the charge, on the solitary sentence of which he had been authoritatively told he had mistaken the plain English meaning. (2) He tries to support his misinterpretation by misquotation. He cites (p. 261) from *Studies in Humanism* (which he had been accused of either not knowing or of confusing with *Humanism*) a remark (p. 355) that *reason* may enter the rational act but need not, and regards it as conclusive proof of irrationalism. The authentic text however has '*reasoning*,' and that the substitution is not merely a careless misprinting (like the grotesque "a few lines further, I own" for "further down" of another quotation on p. 259), is shown by the fact that a 'capital argument is based on it.'¹ (3) To the charge that he has wholly omitted the technical logical side of pragmatism, and has evidently not read essential parts of the literature, M. Schinz replies: "I plead guilty; there are many pragmatic writings which I did not take the trouble to look up," because he felt satisfied that no new argument could possibly be offered. It does indeed seem probable that if he *had* ventured on the logical aspects of his subject he would not have appreciated them. For (4) his reply to the protest that pragmatism does *not* set aside logic, but on the contrary aims at reforming the logic of intellectualism, is that "nobody can 'reform' logic; we find logic in us, we do not make it". This may be correct introspection, but it hardly justifies the very queer 'logic' M. Schinz 'finds' in himself. (5) It had been pointed out to him that *psychological* pragmatism was the root both of the "scientific" and the "moral"

¹ It would seem to be characteristic that M. Schinz should not have delayed publication in order to correct these misquotations. For, as he had the courtesy to send the proofs of his appendix to the writer, they were at once pointed out to him, and he was implored to amend them.

pragmatism he was trying to oppose to each other : he thinks it sufficient to reply with a dogmatic denial that it can do away with their incompatibility (p. 260). (6) He finally astonishes us by gaily admitting as his reply to the charge that he has tried to fight pragmatism with an ultra-pragmatic faith in the potency of falsehood, that his *anti-pragmatism* is in reality *hyperpragmatism* (p. 268). After that who will doubt that in the good cause of the 'purity' of truth Satan may be cast out by Beelzebub, and that rationalism must go to M. Schinz to be saved ?

F. C. S. SCHILLER.

Modern Problems of Psychiatry. By ERNESTO LUGARO, Professor Extraordinary of Neuropathology and Psychiatry in the University of Modena. Translated by David Orr, M.D., and R. G. Rows, M.D., with a Foreword by T. S. Clouston, M.D., LL.D. Manchester : University Press, 1909. University of Manchester Publications, No. xlvii. Pp. vii, 305.

This book was well worth the trouble expended on this excellent translation. "The many text-books on the subject of insanity which we already possess, deal almost exclusively with the clinical aspect of mental diseases, and we know of no work in the English language which treats of this question from the scientific, practical and social sides so clearly and so thoroughly. The work appears, too, at a time when the question of the necessity for the better teaching of the subject, for the carrying on of research in our asylums, and for a modification of the treatment of the insane and the criminal is becoming recognised throughout the country." These words of the translators are perhaps fairly justified. At any rate, the book is lucid, critical, scientifically informed and practical. I know of no better text-book for conveying to the advanced student of morbid psychology a critical account of the whole range of ideas that direct the modern study of insanity. The problems are classified as Psychological, Anatomical, Pathogenetic, Etiological, Nosological and Practical. Under Psychological Problems, the author attempts to dispose of metaphysical problems, but in a way that shows considerably more skill and philosophical competence than is usually found in the perfunctory "introductions" so common in this field. Prof. Lugaro aims at finding a "determinism" that will enable him to bring psychical phenomena under the law of causation, and this, after critical rejection of monism (materialistic, idealistic and relative), of dualism, and of scepticism, he finds in psycho-physical parallelism empirically regarded, not metaphysically. "Consequently, the determinism of psychic phenomena, regarded in its strictly scientific sense, may become known indirectly through that of the mechanical, objective, and physiological phenomena which take place in the body and especially in the brain" (p. 56). A good deal of the metaphysical criticism seems to me superfluous in a book of this order, but it is so well done, even as mere exposition, that it will provoke the right kind of critical thought in the student. The most valuable parts of this chapter are the strictures on the relation of psychology to practical observation of cases and the implied criticism of current methods. There are many good methodic hints. The other chapters are equally critical, but the same lucidity of exposition is steadily maintained and there is little that is not dealt with in the light of the latest research,—the neuron, neuroglia, stimulus, heredity, etc. "With regard, therefore, to the heredity of acquired modifications of qualitative characters of the body—and the concept of hereditary transmission of acquired characters is usually limited to these

—it may be said that the scepticism of biologists of the Weismann school is more than justified" (p. 203). The whole discussion of the mechanism of heredity is excellent and not unimportant at the present moment when, obviously, the nature of Weismann's criticism is little understood among alienists of standing. Indeed, it is difficult to select any part of the book that is not well done. The Manchester University Press are to be congratulated on the make-up of the volume, including the plates. The "foreword" by Dr. Clouston relates the work effectively to the more familiar clinical studies of our own country.

W. L. M.

History of Medieval Philosophy. By MAURICE DE WULF, Professor at the University of Louvain. Third edition. Translated by P. Coffey, Professor of Philosophy, Maynooth. Longmans, 1909. Pp. 519.

The present English version forms a third edition of the *Histoire de la Philosophie Médiévale*, of which the first French edition appeared in 1900, and the second in 1905. The second was duly noticed in *MIND* at the time of its appearance. A fair idea of its contents may be got from the *Primer on Scholasticism* in Messrs. Constable's series of *Primers of Philosophy*, that little work being almost an epitome of M. Wulf's volume. M. Wulf's work is, and, we are convinced, is destined to remain, the standard work on the subject of Medieval Philosophy, so little understood in England. Therefore we welcome it in its English dress, well printed and well indexed, a convenient book of reference. The translation is well done. A careful scrutiny reveals only such minor blemishes as "Jacob Ledesma" for James, "Gregory of Valence" for Valencia, and the unusual "Pseudo-Denis" for Dionysius. The author has done well to prefix a good sketch of Greek Philosophy. Plato is severely handled, but then a Thomist, like M. de Wulf, never can be a Platonist. None the less is it true that without Plato Aristotle would not be Aristotle, nor Augustine Augustine, nor consequently St. Thomas all that M. de Wulf now admires in the Angelic Doctor. The conspectus of Thomist Philosophy, in which M. de Wulf is a master, is one of the finest features in his book. Very interesting also is the account of the transition through the Dark Ages of early Mediævalism to the full day of Scholasticism in the thirteenth century. One might have pleaded for a little fuller consideration of St. Anselm's ontological argument for the existence of God. That argument, condemned as it is by St. Thomas, serves well to mark the difference of thirteenth century thought from the thought of previous as well as of later ages. While philosophy lives, the discussion of the Anselmic proof can never die. A feature in this third edition is the analysis of the thirteenth century Neo-Platonism of Witelò and Theodorìc of Freiburg. Witelò's work *De Intelligentiis* has been recently printed for the first time. St. Thomas once refers to it, with the remark that it is "of no authority". Witelò explains all things in the analogy of light, God being light essential, and all creatures light participated. Unlike earlier Neo-Platonists, Witelò is free from all taint of emanation and monism. The discussion of pre-Thomist scholasticism, sometimes called Augustinism (qu. Augustinianism?) in pages 266-267, lets one into the very penetralia of mediæval thought. The sad decline of Scholasticism from the year 1400 onwards, and the blindness of the seventeenth century schoolmen to the new developments of physics, are honestly acknowledged by M. de Wulf, who, as chief of the Louvain school of Neo-Scholasticism, cherishes, we may suppose, his own hopes of a revival on better lines.

The Elements of Ethics. By Prof. J. H. MUIRHEAD. Third edition, revised and enlarged. London: John Murray, 1910. Pp. xiv, 296.

In the new edition this well-known work has been brought up to date as far as its character as an elementary manual could permit, chiefly by additions in the middle and in the appendices; attention has been paid especially to recent psychology and sociology.

What strikes the reader at once is that the retained passages have been consistently condensed in style and that several minor passages of the old editions have been omitted. The old matter has been rearranged to some extent, and the whole change has been in the direction of concreteness and simplicity. The additions make the manual more comprehensive; for example, there is now a discussion of "Ethics and Economics" (§ 14), and—to take a larger portion of the work—a third chapter has been added to book ii., on "Reason and Conscience," dealing with the relation of developed interests and purposes to the authority of Conscience. It is in book iii. that we note the chief additions and alterations. Stoicism and Kant receive independent treatment (§§ 56-57) instead of the bare mention of the second edition (pp. 123-124); there is a new § 73 on "The Social Organism," and chapter ii. ("The Unity of the Good") replaces minor references in the previous editions. The suppression of the old §§ 78-79 on the Cardinal Virtues for a new chapter (book iv., chapter iv.) is noticeable, as it marks a return to the Platonic treatment adversely criticised in the second edition (p. 190).

A summary of the argument is given for the first time (pp. 273-276). The four appendices are not altogether new, B and C being transferred notes, and D a discussion on "Art, Science, and Morality" replacing the former note on page 202. Appendix A gives a short account and criticism of Mr. G. E. Moore's principles. The bibliography and index have been brought up to date. There is no doubt that this thorough revision will add to the usefulness and the life of the work, which needs no introduction to teachers and students of ethics.

R. S.

Philosophy as a Science. A Synopsis of the Writings of Dr. PAUL CARUS. Chicago: Open Court Publishing Co., 1909. Pp. ix, 213.

This little book falls into three parts: an Introduction (pp. 1-28), written by Dr. Carus, and summarising his *Philosophy of Science*; a list, with summaries, of his books (pp. 29-92); and a similar list of his editorial articles in the *Open Court* and the *Monist* (pp. 93-187). There are, further, an excellent index (pp. 189-213) and a frontispiece portrait of the author.

The Introduction, already condensed to the limit of intelligibility, is exceedingly difficult to review. Dr. Carus gives paramount place in his thought to the distinction between form and substance. All science consists in describing forms and tracing their changes; "our very souls are form, and all that we do in life is forming and being formed"; pure forms are super-real; the purely formal conditions which constitute the laws of nature are omnipresences and eternalities of unfailing efficiency. An evaluation of pure form yields the distinction between formal sciences and sciences of concrete phenomena. The philosophy of science, then, uses the former as the organ of thought, and supplies to the latter the method of establishing truth, i.e. of securing adequacy of factual description. It itself takes shape as a monism, to which the duality of mind

and body appears as a parallelism of aspects, not of independent realities. Every objectivity has its subjective aspect, potentially capable of development into feeling; the potential becomes actual, however, only by the interrelation and co-operation of subjective elements: here is the explanation of the origin and nature of consciousness. The conclusions thus reached are tested by reference to certain large problems (quality, causality, things in themselves, the pragmatic account of truth, immortality); and the essay ends with a consideration of the relation of the philosophy of science to religion and art.

J. WATERLOW.

The Moral Life: a Study in Genetic Ethics. By DR. A. E. DAVIES, Professor in the Ohio State University. Baltimore: Review Publishing Co., 1909. Pp. xi, 187.

This is the first volume of the "Library of Genetic Science and Philosophy," in which the Editors of the *Psychological Review* intend publishing articles too long for their Monograph Series. The present work seeks to determine the structure of the moral life in the light of recent psychology, without explicitly contributing to the phenomenology of Ethics. It may be noted that Dr. Davies does not think that Ethics, any more than Chemistry or Psychology, can be compassed by one man, and that he would not displace other ethical methods. This is a restraint pleasant to find in a book representing a definite scientific movement. He is firm also in defending Ethics from an absorption by Sociology (chap. ii.); the Moral Ideal is not the product of the sociologist's social factors. From this the genetic treatment is developed, in chapters on "The Moral Self," "Motive: the Beginnings of Morality," "Motive and the Moral Judgment," and "Motive in Relation to the Personal and Individual," with a discussion of freedom. These contain a sensible psychological treatment, with interpolated discourses on general problems. What is new in the book is pleasantly presented, without any mutilation or disregard of old truths.

The printer might be more careful in future volumes of the series, and it would be advisable to accentuate the difference between the types employed.

R. SMITH.

Clavis Universalis. By ARTHUR COLLIER. Edited with Introduction and Notes by Ethel Bowinan. Chicago: The Open Court Publishing Co., 1909. Pp. xxv, 140.

This edition of the *Clavis Universalis* is an exact and verified copy of the essay as it appears in Dr. Samuel Parr's *Metaphysical Tracts of the Eighteenth Century*. (1837). The introduction and most of the notes are modified extracts from a thesis written for the degree o. M.A., and accepted by the faculty of Wellesley College; the work was suggested and directed by Prof. Calkins, who has also supplied a few references, mainly to Aristotle, in the appended notes.

All students of the history of philosophy will be grateful for the reprint. The book has been practically unknown save to specialists; and yet it is of high importance, as illustrating a path from Cartesianism to subjective idealism that ran, not by way of Locke's *Essay*, but through Malebranche and the Platonist Norris. It also has distinct possibilities for the class-room. A second edition will doubtless allow the editor to correct certain slips (Dugald Stewart is spelled Stuart throughout, and

Vincent of Lerins is duplicated as Vincentius, Lirinensis); she would further be well advised to carry out, in greater detail and completeness, the parallelism between the arguments of Collier and Berkeley.

FRANCIS JONES.

Cambridge History of English Literature, vol. iv., *Prose and Poetry*. Sir Thomas North to Michael Drayton. Cambridge, 1909. Pp. xii, 582.

The greater part of the volume deals with subjects lying beyond the official purview of MIND. It may be mentioned, however, that some interesting facts about Tudor translations of Greek and Latin Philosophy will be found in chap. i., "Translators" (by Mr. Ch. Whibley), and that the whole of an excellent chapter by Prof. Sorley is given to "The Beginnings of English Philosophy". I do not know where else the general student will find so concise and judicious an estimate either of Francis Bacon or of Lord Herbert of Cherbury. I may also call attention to the careful characterisation of the former as an essay-writer in Prof. Routh's chapter on "London and the Development of Popular Literature". For the student whose interest lies mainly in the social sciences special provision is made in a chapter by Archdeacon Cunningham on "Early Writings on Politics and Economics".

A. E. T.

La Renaissance de Droit Naturel. Par J. CHARMONT, Professeur à la Faculté de Droit de Montpellier. Montpellier, Coulet; Paris, Masson, 1910. Pp. 218.

By 'the new birth of Natural Law,' M. Charmont means the new attention devoted to it, or rather perhaps the new footing on which he has placed it. The leading thought of his book is this, that while there is no scientific basis for Natural Law, still it must be upheld on the ground of practical utility. He speaks of "the impossibility of any rational and scientific justification of the idea of law and right"; "we can neither justify this idea nor do without it" (p. 217). "It is vain to pretend to found morality upon science" (p. 147). He quotes with approval M. Lalande: "Out of a proposition, *this exists*, there is question of extracting *We ought to do*. Such an attempt appears the more impossible the more you think of it; it contradicts all the laws of logic. Never out of a fact, a datum, an existence, can you make come forth a precept, a duty" (p. 134). If this be true, there is no Deontology, no science of right and wrong—rather a strong denial. M. Charmont might reflect that the proposition, *this exists*, might conceivably take this form, *this exists on condition of that*, or *this must be, if that is to be*; also that there is a fullness of existence proper to each sort of being, and particularly of man; and therefore in man such a possibility as the falling short of the existence proper to his nature. To damn with faint praise a great book, we venture to consider Plato's *Republic* a tolerably successful treatise on Deontology, and his argument there an argument that does prove something.

M. Charmont's new basis of Natural Law is not science, but what he calls faith. "If we can neither justify this idea (of Natural Law) nor do without it, we escape the contradiction only by making an act of faith" (p. 217). And by faith he means "the need to believe something that is beyond us" (p. 132). He summarises with apparent approval M. Blondel: "Man by his action exceeds the data of experience: to satisfy

his craving, to keep the balance between will and power, he needs to believe in something beyond him. And this belief is an act of religious faith" (p. 165). This notion of faith is much in vogue with certain minds in France and Italy. Faith, thus understood, means an assent to what the *Homilies* call "a comfortable doctrine," simply because it is comfortable in the absence of evidence either way. This notion of faith is not far removed, nay, seems to be derived from, the notion of faith propagated by the German Reformers of the sixteenth century, a notion not yet dead. The Reformers drew dreadful pictures of punishments to follow death; but they took care to protect themselves by the doctrine of 'assurance'. They had privately found salvation, and were assured against eternal loss; and the mere strength of this assurance, impossible to test in this world, and the comfort which it gave them personally, was the guarantee of its validity. This assurance, responding to a felt need, they called *faith*. And so M. Charmont uses the term, or, we should say, misuses it. The legitimacy of the assurance in question we do not here inquire into. Be it legitimate or not, we object to the name by which he calls it: we object, not so much to his philosophy as to his terminology. Let him call the act fideism, or pragmatism, or self-assurance: but the term *faith* is preoccupied, and should not be wrested to a new meaning. It has belonged to Christian theology for a thousand years as the first term in its vocabulary. By nothing has theology, philosophy and mental science generally, been so much thrown back as by the use of old terms to cover new concepts. It is like stealing your grandfather's clothes and impersonating him. It creates confusion and misunderstanding.

M. Charmont begins his historical review of writers on Natural Law with Grotius. If he had considered Grotius's contemporary Francis Suarez, and his great treatise *De Legibus*, he might have found some better foundation than fideism for Natural Law. He would have seen one of his main objections to the science of such Law cleared away. I mean "the variability of the content" of that Law, to which he devotes a whole chapter. He speaks of the "fine fun" which the Historical School have made of the pretensions of that Law to be immutable (p. 168). A perusal of Suarez' *De Legibus*, l. ii., c. 15, might have gone a long way to spoil that fun. Most minutely does Suarez examine M. Charmont's objection; and the answer which he returns is, that the law is immutable in so far as it is applied to one and the same content; or, what comes to the same thing, that the law varies as the content. How far the content may vary, is a further question. St. Thomas says that it varies as human nature varies, accidentally and on secondary details, but not essentially and primarily. These are his words: "Human nature is changeable; and therefore what is natural to man may sometimes fail to hold good" (2^a 2^{ae}, q. 57, art. 2). "A conceivable way in which the Natural Law might be changed is the way of subtraction, that something should cease to be of the Natural Law that was of it before. Understanding change in this sense, the Natural Law is absolutely immutable in its first principles; but as to secondary precepts, which are certain detailed conclusions closely related to the first principles, the Natural Law is not so changed as that its dictate is not right in most cases steadily to abide by; it may however be changed in some particular case, and in rare instances, through some particular cause impeding the observance of these secondary precepts" (1^a 2^{ae}, q. 94, art. 5). There is human nature at par, and also human nature below par; and you cannot press the same law, identically in all its details, upon both. The Fathers of the Church, notably St. John Chrysostom, are full of this reflexion, speaking of the difference between the Jewish and the Christian dispensation. It is the office of the Christian Church

to maintain human nature, and with it the law of that nature, at par. There are difficulties in this discussion brought up by the study of history, but they are not so insoluble as to overturn the whole theory of right and wrong, and reduce the grand science of Natural Law to the pitiful estate of a wholesome fiction. We opine that M. Charmont's new birth of Natural Law must prove an abortion. Let him go back to the Roman jurists and their mediæval commentators, not but that there is much to learn from later writers. M. Charmont, as the sailor would say, has got on the wrong tack. He makes one think, but he is an erring guide.

Methodologisches und Philosophisches zur Elementar-Mathematik. Von G. MANNOURY, Priv.-Doz. f.d. logischen Grundlagen der Mathematik an der Universität zu Amsterdam. Haarlem, 1909. Pp. 276.

This book is an attempt to deal with the philosophical questions raised by modern mathematics from a standpoint which is half Hegelian and half Kantian. On fundamental questions the author refers with approval to Mr. Bradley and Mr. Joachim; on the axioms of Geometry he agrees in the main with M. Poincaré. His reading is fairly extensive, though not quite sufficiently so to prevent occasional errors. For example, he gives a proof of the equivalence of the two definitions of finite cardinal numbers, namely (1) as those that are increased by the addition of 1, (2) as those that obey mathematical induction starting from 0. These two definitions can only be proved equivalent by the use of the "multiplicative axiom," which is not known to be true; but the use of this axiom in the proof in question is obviously unconscious.

The book is divided into two parts, the first dealing with arithmetic, the second with geometry. Oddly enough, mathematical logic is dealt with in the second part, and its importance in connexion with arithmetic is overlooked by the author. All mathematics, we are told, rests on the notions of unity and plurality, in the sense that, although these notions are not simple, their genesis does not belong to mathematics. Certain difficulties are alleged to exist in the notions of plurality, and are accounted for on the ground that reality is one. The account of arithmetic appears in certain respects somewhat unsatisfactory. For example, the author admits that series depend upon asymmetrical relations, but nevertheless holds that all *simple* relations are symmetrical. He endeavours, by a somewhat elaborate method, to construct complex asymmetrical relations out of simple symmetrical relations; but his attempt does not appear successful, and it seems evident that every such attempt must fail. Again he assumes that in Mathematics "existence" means "freedom from contradiction"—a view which, though widely held, appears untenable, if only because freedom from contradiction can never be proved except by first proving existence: it is impossible to perform *all* the deductions from a given hypothesis, and show that none of them involve a contradiction.

The second part of the book, on geometry—apart from the chapter on mathematical logic—is chiefly concerned with the question whether, and in what sense, geometry is to be regarded as derived from, or as applicable to, facts of experience. The author contends (p. 126) that in so far as geometry includes certain facts of experience, it belongs to psychology, while in so far as it is mathematical, it is independent of experience and of "fact". An examination of non-Euclidean geometry leads to the conclusion (p. 244) that experience shows that our rulers and compasses are Euclidean (so far as we have yet investigated them), but

not that space is Euclidean : as mathematics, Euclid and non-Euclid are equally justified. A discussion of the place of rigid bodies in metrical geometry leads to the result that it is merely more *convenient* to treat platinum as rigid than to treat guttapercha as rigid, though the author, like M. Poincaré, does not attempt to show *why* it is more convenient, assuming it to be not more true.

A merit of the book is the very full foot-notes, giving enough quotations from the authors referred to to enable the reader to appreciate their views for himself.

B. RUSSELL.

Die Bedeutung der Tropismen für die Psychologie. Von JACQUES LOEB, Professor der Physiologie an der University of California, Berkeley, California. Vortrag, gehalten auf dem VI. Internationalen Psychologen Kongress zu Genf, 1909. Leipzig: Verlag von Johann Ambrosius Barth, 1909. Pp. 51.

Prof. Loeb's aim in this monograph is twofold: he seeks to recapitulate briefly the more important features in his theory of the part played by tropisms in animal behaviour, and at the same time to answer some of the difficulties which have been brought forward by zoologists and psychologists. The points to which our attention is specially directed are:—

(1) The symmetrical (chemically as well as anatomically) structure of the animals in which the vast number of tropistic reactions have been observed. The results obtained by H. Jennings in experiments on *Paramecium* and the *Ciliata*, which has led to a description of their behaviour as 'motion at random,' are attributed partly to the asymmetrical structure of these *Infusoria*, partly also to the fact that they are not sufficiently sensitive to the stimulus employed.

(2) The necessity of abandoning a teleological interpretation of the significance of tropisms. Experiment has proved that in galvano-tropic animals the reaction occasioned may be directly injurious. Moreover in the pure tropism there is no 'acclimatisation' or 'preference' for one particular intensity of the stimulus; Noll's heterogeneous induction and changes in the point of reversion are due entirely to the presence of complicating conditions, such as a change, either in the inner state or in the environment of the animal, occasioned by the reinforcing action of katabolic or anabolic accelerators—*e.g.* carbonic and lactic acid—or by the masking effects of simultaneously present tropisms. Suggestions for the psychiatrist and moralist are thrown out on the former lines. The absolutely mechanical nature claimed for the tropistic reaction at once excludes all possibility of learning by experience, and indeed modification of any kind, so that the whole burden of development rests with associative memory, and this is to some extent admitted; for—

(3) Emphasis is again laid on the view that a scientific analysis (*i.e.* by reference to physico-chemical laws) of phenomena must not be based on tropisms alone, but that sensibility to difference (*Unterschiedsempfindlichkeit*) and associative memory must also be taken into account.

This paper, though interesting, especially as illustrating how easily a tropism may remain undetected because concealed by other simultaneously present conditions, is yet disappointing; a description of tropistic behaviour is given, and its scope is shown to be possibly wider than was once believed, but little is really said as to the significance of tropisms for psychology, or their relation to consciousness and the developed will.

E. M. SMITH.

Das Erkenntnis Problem und Seine Kritische Lösung. BERTHOLD KERN.
Berlin : August Hirschwald, 1910. Pp. 195. Marks 5.

Anything less "critical" or less of a "solution" than this book it would be hard to imagine. The critical method for Herr Kern seems to consist not in criticism but in allowing that for every theory, however disparate and contradictory with each other some of these theories may be, there is something to be said. In the author's own words, "In the critical system of knowledge nonspatial and spatial, immaterial and material, psychical and physical thinking, apprehension and description find their full and fair justification. We put the concept systems side by side, but allow them undisturbed to run through one another, wherever purposiveness demands and favours this."

To review in detail the surprising results of this fine hospitality of mind would be wearisome. The author has a good sense of difficulties and problems. He sees the element of truth involved in the most diverse theories, but is at the same time always alert to see the impossibilities involved in following exclusively any one of them. His notion of a solution is to say : Take them all at once and do your best. This may seem to be a parody of Pragmatism, but Pragmatism is itself one of the theories so treated. There is considerable insight in some of the detailed treatment of certain problems. The author has a wide knowledge of philosophical literature and of science, but seems to mistake eclecticism run mad for philosophic thinking.

A. D. LINDSAY.

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- Annibale Pastore, *Sillogismo e Proporzione, Contributo alla Teoria e alla Storia della Logica Pura*, Torino, &c., Bocca, 1910, pp. xvi, 227.
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VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xix., No. 1. **J. A. Leighton.** 'Perception and Physical Reality.' [Many errors stand in the way of a true theory of perceptual reality: the separation of primary and secondary qualities, with its affirmation that only the former have objective cognitive value; the assumption that the external world is known, not directly, but through the intervention of 'ideas'; the belief that the cognitive relation of mind to physical reality must somehow be expressed in causal terms. We must begin by realising that perceptual experience is real as it is experienced, and we must recognise that this reality logically involves the thorough-going organic interdependence and correlation of perceptual object and percipient mind.] **F. Thilly.** 'The Self.' [Discusses the various treatment of the self by descriptive psychologists: its denial, its inference, its physiological explanation; warns against confusion of the sense of personal identity with the possible conditions of its appearance. Introspection reveals a self that is aware of states, owns, recognises, remembers, connects them, and takes attitudes to them; probably the self as thus revealed is in some sense substantial.] **C. H. Williams.** 'The Schematism in Baldwin's Logic.' [Baldwin contends that the method of advance in meanings, in both the prelogical and the logical modes, is schematic or experimental in character. There is truth in this view, especially for the earlier stages. But (1) the position creates a dualism between perception and conception which can never be bridged. (2) Thought is not merely schematic, does not proceed merely by trial and error; in so far as it is thought, it is guided by principles which are everywhere functional throughout cognition. (3) The emphasis on experiment is simply a strong restatement of the older doctrine that the procedure of thought, all through its development, is to set up provisional hypotheses and then to test these by the farther facts and experiences to which they point.] **J. E. Creighton.** 'The Notion of the Implicit in Logic.' [A genetic logic must avoid both an atomistic and a preformational view of knowledge. Baldwin seeks to meet this requirement by emphasising continuity while he repudiates the implicit. The difficulty is that, without the implicit, there seems to be no logical place for continuity. Baldwin, it is true, distinguishes genetic from agenetic sciences, and affirms that the former do not admit of mechanical interpretation, but show real progression,—the emergence of something new, causally inexplicable from the events that preceded it. The distinction here drawn, however, is in reality the familiar one of causation and teleology. Missing this fact, Baldwin appears to have missed the consequence that the teleological series is self-determining, and that there is therefore a legitimate use of the implicit, cognition being one continuous function which is exhibited in various modes and stages.] **Reviews of Books. Notices of New Books. Summaries of Articles. Notes.**—Vol. xix., No. 2. **J. G. Hibben.** 'The Philosophical Aspects of Evolution.' [Three questions of a philosophical nature were at once suggested by the Darwinian hypothesis; and though their original form

has changed, they still claim attention in their modern guise. (1) The question of the common ancestry of man and the lower animals has given place to the question whether the present difference between them is not more, after all, than a difference of degree; man, in fact, in this capacity for reflexion, exercises a gift that cannot possibly possess any 'survival value'. (2) The question of teleology in nature, negatived by Darwin, has given place to that of purpose in human nature. In fact, a process that shows no hint of intelligent purpose develops a product whose characteristic feature is purposeful activity; the product then becomes a determining factor in the process; and natural selection thus gives rise to a result which modifies and even defeats its cause. (3) The issue of mechanism and vitalism has been replaced by the controversy concerning the adequacy of the intellect to vital processes (Fechner, James, Underhill, Bergson, Waggett). In fact, the activities of thought are akin to the organising forces of life; knowledge is interpretation of life, and intuitive apprehensions, to be available, must be transmuted into intelligible forms.] **W. M. Salter.** 'Schopenhauer's Contact with Pragmatism.' [There is a relative antinomy in Schopenhauer's system. The root thing in man is will, and the intellect is subservient to the will, to its exclusively practical bent and aim: so far we are on pragmatic ground. Yet this invention of the will, created to serve its own ends, is a servant that can and must release itself from its master and assert its own right to be. The intellect may be disinterested, will-less, contemplative; and, in this objective and contemplative view of things, it lays the foundation of philosophy and of art. Art is the sensible representation of the ideas that philosophy states in concepts; disengagement from will and self is the absolute condition of both. Schopenhauer thus begins pragmatically, but both in general and in his detailed view of philosophy and art rises above the pragmatic point of view.] **A. S. Dewing.** 'The Significance of Schelling's Theory of Knowledge.' [Traces Schelling's relation to Kant, Reinhold and Fichte, and explains historically his interest in theory of knowledge. Schelling recognises three types of cognitive process; transcendental knowledge, the form of knowing in which there is no differentiation of object; particular intuition, which is concerned with limited individuals, grasps ideas and things, and is the first condition of a philosophy of nature; and intellectual intuition, the highest state of knowledge, a synthesis of the two previous types, which represents the generality of mere knowing, the most abstract form of the cognitive act, and this same abstractness made concrete through the intuition of an object, the Absolute. The importance of the whole construction lies in the effort made to bring absolute idealism into accord with a theory of knowledge.] **F. Thilly.** 'Proceedings of the American Philosophical Association: The Ninth Annual Meeting, Yale University, December 27-29, 1909.' Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

PSYCHOLOGICAL REVIEW. Vol. xvii., No. 1. **J. A. Bergstrom.** 'Pendulum Chronoscopes and Accessories for Psychological Experimentation.' [Description of two forms of chronoscope, mirror key, exposure apparatus, face key, touch key and sounder.] **D. Starch.** 'Mental Processes and Concomitant Galvanometric Changes.' [Record of changes in the resistance of the body to a weak electric current during the course of various mental processes. All forms of stimuli employed produced galvanometric changes; the largest deflections accompanied consciousnesses involving muscular activity or emotional shock, the least were observed for habitual mental activity and the process of visual attention. Degree of emotional intensity corresponded very closely with amount

of deflection. No theory is attempted.] **H. T. Woolley.** 'The Development of Right-Handedness in a Normal Infant.' [In her ordinary activities, the child in question showed no sign of right-handedness until she had entered on her ninth month; but at the beginning of the seventh month she picked up coloured objects, under experimental conditions, 206 times with the right, 194 with the left hand, and 68 times with both hands, the right hand gaining as the work progressed; and at the middle of the same month 40 out of 70 reaching tests were done with the right hand. Moreover, the object in the right-hand position was chosen in the first experiments 285 times, and in the second 56. Right-handedness is thus a normal phenomenon of physiological development; it seems, from these experiments, to be correlated with the ripening of the speech-centre, and may possibly depend in some way upon vision (the writer appears to be unfamiliar with Gould's work).] **H. A. Carr.** 'The Autokinetic Sensation.' [Preliminary note upon extent and velocity of the illusory movement, uniformity of occurrence, types of illusion, appropriate eye-movements, influence of eye-position during illusion, effect of previous eye-position, factors producing variability of direction (retinal rivalry, voluntary and involuntary eye-movements, objective movement of light, closure of eyes). There are three types of illusion: the point of fixation remains with the light, and shares in the illusory movement; the point remains stationary, and the light moves away from it; both move, but the fixation-point lags behind the light. Appropriate eye-movements occur with the second type, where the stationariness of the fixation-point is therefore illusory, but not with the first. The author rejects the theory that involuntary eye-movements are wholly responsible for the illusion, and himself outlines a theory on the basis of the difference in conditions of observation from those of normal perception; ocular attitude is the one link between the real and the conceptual space-worlds, and this is so modified under prolonged fixation that its directional significance is modified.] Announcement.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xxi., No. 1. **J. P. Porter.** 'Intelligence and Imitation in Birds: a Criterion of Imitation.' [Full report of an elaborate series of experiments on birds (cow-birds, juncos, bluebirds, blue jays, Baltimore orioles, crows, and English white-throated, field, white-crowned, fox, song and tree sparrows). The birds were allowed to range freely in a large cage, within which was the puzzle food-box, to be opened by pulling a string; a concealed camera allowed the taking of photographs at critical junctures. The author objects to the usual manner of studying imitation, according to which an animal that has unsuccessfully attempted a task is allowed to witness its successful performance from a distance, and then to return to it. He himself waits till a bird has learned to open the food-box in one of several possible ways, and then turns into the cage a bird that has learned to open it in a different way or that is altogether untrained; the mutual influence of the two types of behaviour, or the symptoms of imitation in the untrained bird, are then carefully noted. Using this criterion, the writer found what he terms intelligent (as distinct from reflective or intentional) imitation certainly in the crow, oriole, junco, English sparrow and cow-bird, and uncertainly in the bluebird, and in the white-throated, field and song sparrows. The birds imitated other birds of the same species more readily than members of different species, though the latter form of imitation occurred twice at least. The jays gave no evidence of imitation, though they showed ability to learn.] **E. Jones.** 'The Œdipus-Complex as an Explanation of Hamlet's Mystery: a Study in Motive.' [An application of Freudian principles to the problem of

Hamlet. Hamlet's hesitancy was due to an internal conflict between the acknowledged need to fulfil his task, the killing of his uncle, and a special but unconscious cause of repugnance to this task, a repressed jealousy of his father for the affection of his mother. The conflict is the echo of a similar conflict in Shakespeare himself: the play probably took form in the winter of 1601-1602, and Shakespeare's father had died in September, 1601. Since this death may have had the same effect of waking old and repressed memories that the death of Hamlet's father had on Hamlet, it is beside the point to inquire into Shakespeare's conscious intention.—The paper is written with much erudition, and with a wealth of literary illustration; its persuasiveness must not be judged from this bare summary.] **R. A. Acher.** 'Spontaneous Constructions and Primitive Activities of Children Analogous to those of Primitive Man.' [Report, based on questionnaire returns, of children's activities in relation to blocks, sand and earth, stones, snow, strings, points, and edges, modification of bodily form, clothes, striking, with parallels drawn from the life of primitive man.] **L. R. Geissler.** 'The Measurability of Attention by Professor Wirth's Methods.' [Reply to Wirth's critique (*Psychol. Studien*, v.) of the writer's previous discussion of the subject in vol. xx.] Minor Studies from the Psychological Laboratory of Vassar College. **A. H. Taylor and M. F. Washburn.** 'xii. The Sources of the Affective Reaction to Fallacies.' [Test of five typically faulty arguments with some hundred women students. Unpleasant effects are due to content of ideas, falsity of statement, definite sense of omission, lack of equivalence of terms, indefinite sense of something wrong, personal attitude, dislike of formal argument at large. Pleasure is due to content of ideas, supposed correctness of syllogism, amusement, pleasure of discovery of fallacy. These rubrics are to be taken as guides to a detailed introspective analysis.] **H. M. Leach and M. F. Washburn.** 'xiii. Some Tests by the Association Reaction Method of Mental Diagnosis.' [Although the observer was instructed to conceal her knowledge, detection was possible in fifty-two out of fifty-three experiments. A reconsideration by an outsider showed that reaction-time alone is a much safer guide than character of association alone. The best single criterion is the longest reaction-time; the most significant associations are those that indicate misunderstanding of the stimulus-word in a way that would be practically impossible for an instructed observer, and those based on the sound of the word.] Psychological Literature. Note.

INTERNATIONAL JOURNAL OF ETHICS. Vol. xx., No. 1, October, 1909. **E. Albee.** 'The Meaning of Literature for Philosophy.' [Literature is the most direct, the most inevitable, the most vital interpretation of life. It is not a theory of life like philosophy—as such it is almost sure to fail. But it is a dynamic factor in life which philosophy neglects at its own peril.] **C. M. Bakewell.** 'The Unique Case of Socrates.' [Socrates was faced by a crisis that was at once religious and philosophical. He caught an inspiration of a way of escape. That inspiration gave rise to a new ideal. And—most outstanding point of all—he was himself a marvellously complete embodiment of this ideal.] **J. E. Creighton.** 'Knowledge and Practice.' [There is no true opposition between the intellectual and the moral life—between the disinterested pursuit of ideas and enthusiasm for practical movements and reforms. Yet there exists a genuine and radical antagonism between the ideals of the scholar and thinker and those of the distinctively practical man. This applied more specifically to some of the problems of university life at the present time.] **E. S. Ames.** 'Religion and the Psychical Life.' [Shows the naturalness, and the functional character, of religion as an

aspect of life; and indicates the application of this to particular phases of religious experience, such as faith and prayer.] **J. W. Buckham.** 'The Organisation of Truth.' [The need of appraising and relating different kinds or orders of truth. This requires a principle of values. The touchstone or criterion of values is personality. Practical truth is of higher value than theoretical, because on the whole it is nearer to personality.] **R. M. MacIver.** 'Ethics and Politics.' [Discusses their relation, and indicates the practical problem involved.] **H. W. Wright.** 'Religion and Morality.' [Religion is the third and final step in the organisation of conduct. It is the adjustment—going beyond that of the different impulses of the individual, and that of the individual to society—of man to the universe. This conception employed to throw light on the development of religion and its relation to morality.] **Book Reviews.**—Vol. xx., No. 2. January, 1910. **J. H. Muirhead.** 'The Ethical Aspect of the New Theology.' [Its fundamental problem is the reconciliation of immanence and transcendence, of the real and the ideal. This can be accomplished only through the conception of development—of the place which end or purpose occupies in life. Life consists in seeking to make actual what is as yet a mere potentiality or need; and again, a need expresses an indwelling principle in what is already attained. "The ideal is *in* the world just because it is *above* it; it is recognised as above it just because it is already manifested in it."] **J. H. Tufts.** 'The Present Task of Ethical Theory.' ["The aim of this paper is to point out some of the reconstructions and new constructions which are called for in our fundamental ethical conceptions, if they are to maintain their scientific standing, to interpret the moral life of to-day, and to furnish guidance to education, jurisprudence, and other agencies of social reform."] **W. R. Sorley.** 'The Philosophical Attitude.' [Finds the deepest problem and the final goal of philosophy in the reconciliation of the worlds of facts and of values. Neither of these can be reduced to the other. This view of the task of philosophy accords with the conception of the philosophical attitude as an active process in which the soul realises what is akin to its own nature.] **T. Veblen.** 'Christian Morals and the Competitive System.' [A discussion of their relations in the light of their respective origins, and of their significance as principles of conduct at the present time. "Except for a possible reversion to a cultural situation strongly characterised by ideals of emulation and status, the ancient racial bias embodied in the Christian principle of brotherhood should logically continue to gain ground at the expense of the pecuniary morals of competitive business."] **T. Jones.** 'Pauperism: Facts and Theories.' [Deals with Poor Law reform, giving reasons for the view that the policy of the Minority Report is that on which the nation should concentrate its forces.] **C. W. Super.** 'Ethics and Language.' [Discusses the significance of the more important ethical terms as they are found in various languages, ancient and modern.] **Book Reviews.**

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. vi., 21. **W. P. Montague.** 'May a Realist be a Pragmatist?—iv.' [If *Ontological Pragmatism* or *Humanism* is interpreted objectively, the 'man-made' character of reality really means 'man-selected,' and it is compatible with realism. Lastly, *Logical Pragmatism* cannot establish any correlation between degrees of utility and of certainty, though in general truths are useful. There ought to be tables of useful propositions to show in what proportion of cases they were true. Logical pragmatism however has no bearing on realism.] **W. T. Bush.** 'The Sources of Logic.' [If language is an instrument of intelligence and adapted to a

world which shows both substantive and transitive aspects, grammatical distinctions must have a real validity. Only the importance of the *verb* must be recognised.] **A. O. Lovejoy.** 'Pragmatism and Realism.' [Points out in reply to Montague that the special *nuance* of pragmatic empiricism is instrumentalism and nominalism, and that it is essentially critical of the copy-notion of truth implied in realism and substitutes inter-temporal for trans-subjective reference. This either favours idealism, or a pragmatic alternative to idealism in which "the traditional subject-object dualism is abrogated and transcended".]—vi., 22. **B. C. Ewer.** 'Paradoxes in Natural Realism.' [In spite of them "it need not pretend to be more than a partial account . . . what it properly asserts is that as a careful statement of a universal *naïve* belief, it is empirically satisfactory and logically self-consistent".] **W. B. Pitkin.** 'Some neglected Paradoxes of Visual Space.—I.' [The study of the blind spot presents us with a sensible *ἀπειρον* of pure extension and "the paradoxes here given perceptually are just what one must expect to flow logically from the hypothesis that the space we see is real space itself".]—vi., 23. **R. W. Sellars.** 'Space.' ["Reality or nature is extended, organised and active, and consciousness is not excluded from it . . . but the flow of experiencing is not a stuff nor a thing alongside of other things. It is a *variant* in the changes occurring in that part of reality we call the brain."'] **H. L. Hollingworth.** 'The Perceptual Basis for Judgments of Extent' [discusses a discrepancy between his experiments and those of Prof. Leuba]. **J. E. Boodin.** 'What Pragmatism is and is not.' [It is simply the scientific testing of philosophic hypotheses, in default of which philosophy becomes a department of poetry. It therefore selects *part* of reality as that with which truth has to agree, and never aims at the whole. It is not necessarily humanism, nor productive of all sorts of satisfaction, nor does it admit an ultimate difference between truth and the test of truth. There is no dogmatic pragmatism.—A clear-headed paper.]—vi., 24. **W. B. Pitkin.** 'Some Neglected Paradoxes of Visual Space.—II.' [(1) That the continuity of the visual field is merely a product of blindness; (2) that the group of extensions is essentially like a group of simultaneous tones, pressures or pains; (3) that the logic valid for arguments about physical and geometrical spaces holds for visual space. All these pseudo-paradoxes are compatible with realism.] **H. M. Kallen.** 'The Affiliations of Pragmatism.' [Criticises Lovejoy's argument in vi., 21, and points out that the peculiarities of pragmatic 'nominalism' commit it to realism rather than idealism and are compatible with an epistemological difference between 'knowing' and 'creating,' but does not discuss Lovejoy's 'third alternative'.] **V. Welby.** 'Prof. Santayana and Immortality.' [Comment on his personal view as expressed in vi., 15.]—vi., 25. **K. Schmidt.** [Wants philosophy to be "developed as a system not of individuals but of life itself".] **B. B. Breese.** 'Can Binocular Rivalry be Suppressed by Practice?' [Not by B. B. Breese.] **M. Meyer.** 'An English Equivalent of "Combinationsmethode".' [It should be translated *conjectural method*.]—vi., 26. **C. H. Ames.** 'William Torrey Harris.' [Obituary.] **R. B. Perry.** 'A Division of the Problem of Epistemology.' [The three fundamental problems concern the relations between (1) the knowledge and the known, (2) the thing and what is known of it, (3) the person and his knowledge. Under (1) distinguishes epistemological monism and dualism, under (2) ontological idealism and epistemological realism, under (3) psychological idealism and realism.]—vii., 1. **R. B. Perry.** 'The Egocentric Predicament.' [*Viz.*, the fact that all objects are relative to consciousness, proves nothing, and does not

prove ontological idealism, because it can never be eliminated. What difference (if any) being known makes to the being of things can never therefore be estimated in this way.] **W. Brown.** 'Educational Psychology in the Secondary Schools.' [It is beginning to attract the practitioners despite the backwardness of the psychology of reasoning.] **S. A. Elkins.** 'A Philosophical Platform from another Standpoint.' Contains also a review of James's *Meaning of Truth* by Prof. J. E. Russell.—vii., 2. **W. James.** 'Bradley or Bergson?' [Suggests, *apropos* of Bradley's article in *MIND*, No. 72, 7, that originally the watershed between them is a knife-edge, because both admit the priority of feeling and recognise that the way of philosophy is not that of life, and appeals to Bradley to 'revoke' and bury rationalism for good.] **J. E. W. Wallin.** 'The Duration of Attention, Reversible Perspectives, and the Refractory Phase of the Reflex Arc.' [Experiments tending to show that the so-called fluctuations of attention are only "psychical correlates of bodily processes of fatigue and recuperation".] **W. B. Pitkin** on the Ninth Meeting of the American Philosophical Association.—vii., 3. **G. V. N. Dearborn.** 'The Discernment of Likeness and Unlikeness.' [Experiments with ink-blots. Ideational methods proved inferior to 'feeling' criteria, *e.g.*, 71 out of 100 being judged to be 'similar' to the same test-blot, though none by more than 7 percipients.] **W. H. Kilpatrick.** 'A Phase of the Problem of Contingency.' [Scientific method takes the world as determinable by substituting an ideal world with a finite number of distinct elements, for one which is apparently infinite and not exactly decomposable; but if the actual world be infinite, it can never completely predict the future.] **A. Dewing.** 'Chance as a Category of Science.' [Chance and law are relative to the success with which we find regularity in a scientific problem.]—vii., 4. **W. James.** 'A Suggestion about Mysticism.' [That mystical 'intuitions' may only be "very sudden and great extensions of the ordinary field of consciousness," with a record of some experiences (of his own and of others).] **W. B. Pitkin.** 'Some Neglected Paradoxes of Visual Space.—iii.' [Disputes that psychologists have a right to regard the spatiality of the retinal image as a coincidence, and argues for a realist interpretation.] **A. O. Lovejoy.** 'The Treatment of Opposition in Formal Logic.' [Points out that there are five denotative relations between the subject and predicate in a proposition, and that the four categorical forms are therefore ambiguous.]—vii., 5. **R. M. Yerkes.** 'Psychology in its Relation to Biology.' [A plea for a strictly scientific study of psychology, even though "the current American psychology is a dismal mixture of physiology and psychology," and its teachers are not agreed as to what it should be.] **H. C. Goddard.** 'Literature and the "New" Philosophy.' [Interprets James's *Pluralistic Universe* as a call to philosophy to ally itself with poetry.]—vii., 6. **W. P. Montague.** 'A Pluralistic Universe and the Logic of Irrationalism.' [An elaborate review of James's book, accepting the pluralistic metaphysic, but objecting to 'Bergsonian' logic, that "the intellect has no difficulty in apprehending change".] **M. Eastman.** 'To Reconsider the Association of Ideas.' ["Logic assumes that the world appears infinitely various until thought discovers identities in it . . . but in evolution and life the world appears first a mere succession of identical experiences, and only with the development of the organism do differences appear."] **E. O. Sissons.** 'Egoism, Altruism, Catholism.' [The last is wanted as a term to denote the considering of all claims and the conciliation of egoism and altruism, neither of which is moral as such.] **W. E. Hocking.** 'Analogy and Scientific Method in Philosophy.' [A note.]—vii., 7. **J. Dewey.** 'Valid knowledge and the "Subjectivity of Experience".' [Denies that 'experience' is necessarily

subjective, and that valid knowledge has any meaning "save as based upon the specific detectable traits of those instances of knowledge enterprises that have turned out valid in contrast with those that have turned out invalid," and that there is "a problem of knowledge *überhaupt*" instead of the discrimination of a good and a bad knowledge.] **G. H. Mead.** 'What Social Objects must Psychology Presuppose?' [If meaning is consciousness of attitude, it must be primarily directed towards others.] **E. B. Titchener.** 'Attention as Sensory Clearness.' [Replies to criticism by Woodworth.] Contains also a disclaimer by F. H. Bradley of the originality attributed to him by James in vii., 2, and a brief correction by James of the idealism attributed to him by Montague in vii., 6, with comment by the latter.—vii., 8. **A. C. McGiffert.** 'The Pragmatism of Kant.' [His postulates are quite pragmatic, created and made true by us and verified by moral experience in the realm of values (though not in sense-experience). Even his unpragmatic *a priori* he finds in experience. In short, "as between the pragmatists of to-day and the intellectualists of either the Bradley or the Royce type he belongs with the pragmatists".] **W. B. Pitkin.** 'Some Neglected Paradoxes of Visual Space.—iv.' [Argues from the imitative reflex and the embarrassments of idealistic biologists (Driesch) that every one except the Christian Scientist, "even the absolute idealist, must recognise that one must choose between no evolution at all and epistemological realism, at least so far as space is concerned".] **J. S. Moore.** 'Irrationalism and Absolute Idealism.' [Against James.] **R. S. Woodworth** reports on the section of Anthropology and Psychology of the New York Academy of Sciences.

REVUE DE PHILOSOPHIE. 1er Janvier 1910. **E. Joyau.** 'The Aristotelian Theory of Intelligence.' [An interesting exposition of Aristotle's *De anima*. Aristotle obscure and incomplete. "From an ontological standpoint, Being and Thought are identical. There are not several truths, and there are not several true knowledges. Aristotle then would not have admitted the distinction, to which St. Thomas attaches so much importance, between truth in things and truth in the mind. It would be more exact to say that the intelligence is potentially what the things are in reality."] **G. Jeanjean.** 'The New Pedagogy.' [Comprises Pedology, the science of the child; Pedonomy, the general theory of education; Pedotechny, the practice of teaching. The doctor's right of entry into the school.] **A. Veronnet.** 'The Necessary Atom.' [Higher Chemistry.] **P. Charles.** 'Positivism.' [Positivism in its very negations involves metaphysics.] **E. Peillaube.** 'Object of Psychology.' [It is high time to confine Psychology to the empirical science of conscious states, and to relegate the further Philosophy of Soul to Metaphysics.]—1er Fevrier 1910. **H. Tandière.** 'Concurrent Rights in the Work of Education.' [Before Christianity came the infant's right to live was not recognised. With the right to live goes the right to be brought up, educated, not merely instructed. The duty of educating the child, and with it the right to educate, rests primarily with the parents. "The State," says M. Clemenceau, "will have too many children to be a good father." Educational doings in France.] **R. Jeannière.** 'Can a Realist be a Pragmatist?' [Summary of four articles by W. P. Montague in the *Journal of Philosophy*. By 'realist' is meant the opposite to a subjective idealist. There are four pragmatisms: biological, psychological, ontological, logical, all consistent with realism except the second, which holds that *esse est percipi*.] **P. Charles.** 'Riehl's view of Kantist Realism.' ["The idealist interpretation has become almost traditional, and yet its insufficiency stares you in the face in the very first pages of

the *Critique of Pure Reason*. The question is clearly formulated by Kant: How can we possibly have an *a priori* knowledge of things which are not produced by thought? Or, what comes to the same thing: How can there be synthetic judgments *a priori* valid for things? The question loses all meaning, if there are not things independent of the mind."]

A. Véronnet. 'The Necessary Atom.' ["Thermodynamics, far from rendering useless the notion of atom and molecule, makes it pervade everything."]

P. Charles. 'Associationism.' [Association of ideas affords no guarantee for our future experiences. Only a principle of causality, objectively valid, can do that.]—1^{er} Mars 1910.

P. Rousselot. 'Spiritual Love and [Kant's] Apperceptive Synthesis.' [By 'spiritual love' the writer means desire to find oneself and find God. 'Apperceptive synthesis' is "that characteristic property of the intelligent soul, whereby it reduces the multiplicity of objects to the unity of a sum total of consciousness by the mere fact of perceiving them". This "is done in the idea of *being*, the objective universal form of objects of thought". A deep and perplexing paper.]

Dr. Grasset. 'The Defence of Life.' [The resistance of the animal organism to strange and noxious invaders in health, also in disease.]

C. Huit. 'The Absolute, an Historical Study.' [The Absolute not to be banished from philosophy. The metaphysical Absolute, that which is above all relation. The logical Absolute, that which is independent of all demonstration. The scientific Absolute, that which is permanent in the objects and laws of nature. Pre-Socratic Greek Philosophy of the Absolute.]

G. Jeanjean. 'Pedagogic Chronicle.' [The bibliography of pedagogy in its most recent developments.]

P. Charles. 'Kantism.'

ARCHIVES DE PSYCHOLOGIE. Tome ix., No. 2. **O. Decroly et J. Degand.** 'La mesure de l'intelligence chez des enfants normaux d'après les tests de MM. Binet et Simon : nouvelle contribution critique.' [The authors have repeated, upon a number of normal children from two and a half to twelve and a half years of age, the tests recommended by Binet and Simon. They find that some of these tests are far too simple, some too difficult, for the age for which they are designed; that some involve a purely mechanical repetition of memorised words; that tests which appeal to knowledge gained from school or family environment are too numerous; that the tests of immediate memory are too coarsely graded. They agree with Binet and Simon on the importance of distinguishing intellectual maturity from the ability rightly to use the degree of intelligence attained.]

E. Claparède. 'L'unification et la fixation de la terminologie psychologique.' [Report presented to the Sixth International Congress : desiderata, principles, application of principles, illustrations from the spheres of general methodology, apparatus, notation of the age of children. Translation of brief report presented by Baldwin; formation of international committee.]

D. Katzaroff. 'Qu'est-ce que les enfants dessinent?' [Statistical report of the subjects of children's drawings; the children are distributed, according to sex, under the headings intelligent, unintelligent, attentive, absent-minded, active, apathetic. Universally, figures of human beings occur more frequently than those of animals, and animals more frequently than ships, railways, and flags.]

Recueil des Faits : Documents et Discussions. **J. Varendonck.** 'Les sociétés d'enfants.' [Questionary upon the subject of the bands or clubs formed by school-children.]

E. Claparède et M. C. Schuyten. 'Comités internationaux de pédologie.' [Note on the status of the two committees: that of the international congresses of pedagogy, headed by M. Schuyten, and the international committee of pedagogical psychology, headed by M. Binet.]

L. Gretchoulévitch.

'II^{me} Congrès russe de Psychologie Pédagogique, St.-Petersbourg, juin 1909.' **F. Consoni.** 'Cours de psycho-pédagogie expérimentale à Pérouse, 12-24 septembre 1909.' **E. Claparède.** 'Rêve utile.' [Record of a dream by which the author was enabled to find a lost pair of pocket scissors.] Bibliographie. Notes diverses.

ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd. liv., Heft 3. **Von Monakow.** 'Neue Gesichtspunkte in der Frage nach der Lokalisation im Gehirn.' [The paper opens with the proof that there are many discrepancies in the current doctrine of cortical localisation, and with a critique of the principle of vicarious function. The author then draws a distinction between chronic and temporary, or residual and initial symptoms, and between the localisation of clinical symptoms and the localisation of function. In explanation of the temporary clinical symptoms he offers the theory of diaschisis, i.e. of a special kind of shock, whose occurrence presupposes acute interruption of definitely grouped anatomical conductions in the central nervous system. We have to assume the possibility of dynamic secondary effects, arising especially in those fields of cortical and sub-cortical grey matter which, though they may be remote from the point of lesion, are connected with it by fibre conductions, and extending selectively to regions adjacent to the interrupted neurones. As regards function, the writer thinks that we can localise only elementary components, and of these again only those that subserve spatial orientation and the related motor responses to excitatory impulses.] **F. Reinhold.** 'Beiträge zur Assoziationslehre auf Grund von Massenversuchen.' (1) Since adults show a less differentiation of reaction-words than children, it might be thought that concordance of reproduction increases gradually with age. Experiments with 300 schoolgirls of different classes confirmed this hypothesis, though only roughly; other factors than age are involved. (2) It is probable that every stimulus-word has its most favoured reaction-word; such a reaction occurred in 30 to 155 cases out of 300 reactions. Co-ordination is very common; whole-to-part appears oftener than its opposite; at times no logical connexion can be made out. Most word-pairs of this sort associate in both directions, but not all, and not with equal strength.—In this section the writer publishes his results in full, as a contribution to a lexicon of associations, already begun by Saling. (3) The results differ in certain respects from those of Watt, evidently on account of the diversity of stimulus-material; hence in future studies of association, the words employed should be given. It is possible that the frequency of a word in association varies with its frequency of occurrence in ordinary speech. (4) No general inference as to mental endowment can be drawn from verbal associations, though experiments often repeated may throw light on certain special aspects of endowment.] **Literaturbericht.**—Bd. liv., Heft 4 und 5. **W. Köhler.** 'Akustische Untersuchungen, 1.' [An investigation suggested by the recent work of Meissner and Herrmann-Goldap, which refers the colour of musical instruments to the presence of formants. (1) Account of a novel method for the record of musical tones; a tiny mirror is attached to the drum-skin, and the vibration of the membrane is photographed as that of a beam of reflected light. (2) The contraction of the tensor is tetanic, remaining unchanged with unchanged intensity of a continued stimulus; degree of contraction depends upon intensity of stimulus, and in the case of a compound stimulus upon the intensity of the total wave-motion. These observations dispose of the accommodation theory; but, in fact, the magnitude of the tensor reflex, in the middle octaves, appears to be absolutely independent of pitch. The reflex itself is consensual. Its function is, like that of pupillary contraction, protective: amplitudes are relatively

diminished, and heard intensities possibly reduced.—The maximal excursion recorded for the umbo is 1/55 mm.; the drum-skin responds certainly to tones as high as the *c*⁴, but appears to grow the more sluggish the higher the tone. (3) Records of the tones of trumpet, French horn and tenor trombone confirm Helmholtz' view that colour is determined by number and intensity of partial tones. This colour must be referred, not with Stumpf to tone-colour, but rather to an interval-colour, which demands further investigation. Vocalisation, on the other hand, depends upon the presence of formants; and simple tones, of the pitch of these formants, show the vowel-character.] **P. Kullmann.** 'Statistische Untersuchungen zur Sprachpsychologie.' [A study based principally on Heine's *Harzreise* and Goethe's *S. Rochusfest*. The higher the average of unaccented syllables included between two accented, the smaller is the number of monosyllables, and the higher the average number of syllables in a word. The uniformity of prose rhythm, expressed by the mean variation of these two averages, is governed not by any linguistic or stylistic law, but by mathematical probability. The number of monosyllables decreases in the order, conversation, drama, letter, narrative, treatise; the average number of syllables in a word increases in the same order. Emotional writing has more monosyllables and a smaller average word-length than indifferent.] **W. Poppelreuter.** 'Über die Bedeutung der scheinbaren Grösse und Gestalt für die Raumwahrnehmung.' [The author emphasises the need of a phenomenology of visual space, and discusses the space data of a room under the headings of apparent distance (from the observer), apparent magnitude (distance of points from one another), apparent form, distance, and depth. He then reviews the previous work on apparent magnitude, with especial reference to Hillebrand. (1) The most general determinants of the properties of perceptual space are apparent distance and (uniform) deviations of apparent magnitude. Since these two determinants themselves stand in a relation of uniform interdependence, we may get at apparent distance, and quantify its factors, by way of apparent magnitude. Five methods are outlined, which aim at an exact experimental comparison of binocular parallax and perspective: the former the chief factor on the side of (possible) connate endowment, the latter that on the side of acquisition. (2) Turning from the question of analysis to that of genesis, the author criticises the theories of Hering and Wundt. He finds in children's drawings which represent objects, on the basis of sensory content, as they would affect the percipient in the case that action were necessary, a transforming principle which may have led to the deviations of apparent magnitude and form. He suggests, further, that more may be made than is ordinarily supposed of the analogy of auditory space perception. But the study of genesis must come after analysis.] Literaturbericht.—Bd. liv., Heft 6. **G. von Allesch.** 'Über das Verhältnis der Aesthetik zur Psychologie.' [Lipps and Witasek maintain that aesthetics is essentially psychological in nature; Cohn and Meumann, both experimental psychologists, affirm the contrary. Cohn stands for the normative character of aesthetics; psychology can never arrive at a selection and gradation of aesthetic values. Meumann demands, over and above psychological analysis, the use of objective methods and the adoption of a specifically aesthetic point of view. The author champions the psychological theory of aesthetics, and in so far confesses his adherence to the relativistic school. He offers an elaborate criticism of Cohn and Meumann, taking their definitions and formulæ term for term: into this discussion we cannot follow him. In a final and constructive section he declares that the principal problem of aesthetics is two-fold: the analysis of aesthetic contemplation (*Anschauung*), and that of the specific aesthetic reaction,

the æsthetic feeling. (1) The material for an adequate contemplation is furnished by simple and exact perceptions of the given sensory data and their relations. These are immediately supplemented by certain processes in the observer's mind, apprehensions, empathies, etc. A further stage of supplementation brings in material of the most varied kind: the intention of the artist, the significance of details: at this stage knowledge of the history of art plays its part, drawing attention to features otherwise overlooked, or itself furnishing commentaries and interpretations. This supplementary material has two restrictions, and two only: first, the intention must be fulfilled; an intention ascribed to the given phenomena belongs to æsthetic contemplation only if and in so far as it finds fulfilment in them; and, secondly, the material, to be æsthetic, must exert a positive or negative influence upon the affective reaction of the observer. (2) We have as yet no adequate psychology of feeling. We may say, however, that those persons are to be preferred for æsthetic inquiries who evince a strong and well-marked affective reaction; that the art-critic, while he is primarily concerned with the analysis of contemplation, should also record his feelings, and that the record will be valuable in proportion as his whole world of life and thought is transfused with the æsthetic atmosphere; that individual differences of youth and age, north and south, deserve careful comparative study; and that there is good hope of an ultimate formulation of æsthetic reaction as a uniform function of the concurrence of certain mental attitudes or dispositions with certain ideational complexes or processes.] *Literaturbericht.* O. Klemm. 'Berichtigung.' E. Duerr. 'Antwort auf vorstehende Berichtigung.' [Apropos of a review of Klemm and Arps, *Der Verlauf d. Aufmerksamkeit bei rhythmischen Reizen.*]

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. cxxxvi., Heft 2, 1909. J. Reinke. 'Über Vererbung, eine Grundfrage der Biologie.' [After giving an account of Mendelism as a typical instance of what is meant by heredity, the writer proceeds to a critical analysis of certain attempts to explain in what way the transmission of specific qualities from parents to offspring takes place, dismissing each in turn as no more than the substitution of one mystery for another, and finally proposes that heredity, as a universal law of life, should be assimilated to the laws of the conservation of mass and energy—with the obvious reservation that it only prevails within the conditions where life itself is possible.] Adolf Wagner. 'Neo-Vitalism.—II.' [Pursuing the train of thought started in a former article the writer contends for the legitimacy, as an analogical conclusion, of his theory that psychic activity accompanies life down to its manifestation in the elementary cell. In adhesion to Avenarius the necessity for maintaining an equilibrium between nutrition and expenditure of energy is emphasised as a mark of all effective machinery, whether artificial or organic. Now in the engines we construct for ourselves this equilibrium is provided for by our own intelligent intervention, and therefore, according to Wagner, the presence of an analogous psychic providence within the organic cell may reasonably be inferred.] Karl Siegel. 'Die Voraussetzungen des Mechanismus.' [Mechanism as opposed to vitalism is the theory that the phenomena of life can be adequately explained by the laws of physics and chemistry. Now mechanical science involves two assumptions, (i.) that the total effect of a number of forces acting on any given point is precisely equal in magnitude and direction to the sum of their separate effects; (ii.) that with equal forces the effect produced at any one moment of time is equal to the effect produced at any other moment. The first assumption is unproved, but seems to agree, so far, with what actually happens in

inorganic nature. The second is inconsistent with the evidences of memory afforded by organic matter and, for aught we know, may not be true of inorganic matter either. But the problem of monism remains unaffected by these considerations.] **Karl Böhm.** 'Die Wurzel der Verschiedenheit der philosophischen Richtungen, und die Möglichkeit ihrer Vereinbarung.' [There are two fundamentally contrasted ways of looking at the world, the ontological and the axiological. From the one point of view we tend to regard it as a series of objective states determined by the law of causation, from the other we consider it in reference to a scheme of subjective valuation. The errors, confusions, and conflicts of the various philosophical tendencies arise from an illegitimate transference of categories from the one method to the other. The writer illustrates his theory by what seems the not very felicitous example of utilitarian hedonism. According to him the error of this philosophy consists in determining moral values by the law of causation. But he does not explain why the Epicureans, who rejected unbroken causation, were hedonists, while the Stoics, who accepted it, were not.] **Otto Jenssen.** 'Zur Analyse der Willenshandlung.' [A close analysis of what happens in volition leads to the paradox that an unconscious representation of the action to be performed is one of its necessary antecedents. And this opens the whole question of psycho-physical relations. The reduction of causation to invariable antecedence shows that it might conceivably obtain between psychical and physical processes. But with the conservation of energy a difficulty intervenes; for it cannot be admitted that consciousness either increases or diminishes the amount transmitted to the muscles in an act of volition. The writer seems inclined to take refuge in something like the 'double-aspect' theory.] **Moritz Anthropos.** 'Eine angebliche Autorschaft E. v. Hartmann's.' [Claims for the writer the authorship of two pseudonymous essays published many years ago and recently ascribed by Maywald to Hartmann.] **Rezensionen, etc.**—Bd. cxxxvii., Heft 1, 1910. **Alois Höfler.** 'Erkenntnisprobleme und Erkenntnistheorie.' **Otakar Bastyr.** 'Der freie Wille und seine Bedeutung in der Erfahrung.' **Karl Groos.** 'Bemerkungen zum Problem der Selbstbeachtung.' **Rezensionen, etc.**

RIVISTA DI FILOSOFIA. Anno i., Fasc. 5, October-December, 1909. **Guglielmo Salvadori.** 'Natura, Evoluzione e Moralità.' [The truths of morality can only be explained and reconciled with the laws of evolution by recognising a psychic energy as inherent in the ultimate components of nature by whose gradual emergence and final ascendancy life and conduct are determined.] **Ettore Bignone.** 'La misologia della presente cultura italiana.' [A warning to the youth of modern Italy not to let themselves be misled by certain journalists into contempt for reason and despair of truth.] **Giulio Natale.** 'Storicismo ed Esteticismo.' [Art passes through different historical phases, but except in reference to technique, it does not progress.] **Michele Losacco.** 'La rinascita del misticismo.' [Mysticism, to suit the requirements of our age, must discard the asceticism, the ecstasies, and the self-annihilation of former ages, preserving the essential element of devotion to the eternal and necessary elements of life.] **Autorelazioni, etc.** [This section includes a brief but important study by Prof. Varisco on 'The Enigma of Life'.]—Anno ii., Fasc. 1, January-March, 1910. **A. Faggi.** 'Le origini del Positivismo.' [The inaugural lecture of the successor to Ardigò's chair in the University of Padua. The new Professor gives a general adherence to the principles held in common by Comte, Herbert Spencer, and Ardigò, but only accepts Comte's law of the Three Stages with

considerable reservations. Its validity is ideal rather than historical. In the actual evolution of thought we find the stages transposed and even inverted. The genuinely scientific spirit of a Thales is followed by the metaphysical speculations of the Platonic school and by the theology of Catholicism.] **Alessandro Chiapelli.** 'Condizioni nuove e correnti vive della Filosofia.' [According to this writer the tendency of twentieth century thought is to boil down all the conflicting philosophical directions into a system of spiritualistic monism where, however, the claims of individualism are to be fully satisfied. The article abounds in misprints which make the text not only disagreeable to read but sometimes difficult to understand. One has to think twice, and even thrice, before recognising Emerson under such a travesty as 'Enevon'.] **Carlo Formichi.** 'Gli Studi di Filosofia Indiana.' [It gives one a rather unfavourable idea of this writer that he starts off by describing India as equal in size to Europe, whereas it is less than two-fifths the size. Nor does it alter our impression for the better when he subsequently quotes various absurd statements of Emerson's as if they were true.] **Federigo Enriques.** 'La metafisica di Hegel considerata da un punto di vista scientifico.' [Treats Hegel's philosophy (wrongly called 'metaphysics') as a product of Romanticism, that is to say, as inspired by mystical and poetic ideas, and developed by plays on words. This view seems to ignore the fact, well brought out by Haym, that Hegelianism was a Hellenistic reaction against the Romantic movement, deriving its form from the ideas of Greek philosophy. Nor is the word 'acosmism' appropriately applied to the dialectic system. Hegel uses it—falsely enough—in talking about Spinoza, but would not have accepted it as a description of his own position.] **Francesco De Sarlo.** 'Sul concetto di natura.' [Nature is the totality of phenomena revealed to us through our senses as constituting the outer world. But these phenomena are discovered to be linked together by laws of causation in a way independent of our perceptions. Therefore nature is only intelligible as the object of a universal and absolute subject or spirit. This is the philosophy of Ferrier, to whom the writer makes no reference whatever. It is infected with the old fallacy of assuming that experience can be explained by something whose very existence seems to be incompatible with experience.] **Emilio Morselli.** 'Il fondamento dell' idealismo etico.' [The modern subordination of intellect to morals derives through Fichte from Kant.]

IX.—NOTE.

MIND ASSOCIATION.

The following gentlemen have joined the MIND Association since the printing of the April number of MIND :—

POGSON (F. L.), 22 Richmond Road, Oxford.
 THORBURN (W.), 2 Crick Road, Oxford.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY



I. — THE PSYCHOLOGICAL EXPLANATION OF THE DEVELOPMENT OF THE PERCEPTION OF EXTERNAL OBJECTS (II.).

BY H. W. B. JOSEPH.

IN the first part of this paper I examined Prof. Stout's account of the genesis of our cognition of spatial relations; but the perception of external objects involves the cognition of their external reality, as well as of their spatial relations, and though the two cognitions are said to develop together in the most intimate union, they are, as was said at the outset, discussed separately. We have to turn therefore to the second part of the discussion.

At the outset I must confess myself puzzled about the precise sense in which Prof. Stout uses the words 'external reality'. A man's own body is counted among his 'external objects';¹ yet the two factors involved in the perception of external reality are motor adaptation and the projection of the self; and the latter implies an antithesis between my body and objects external to me.² If the external is to include my own body, to be external is surely no more than to be in space³; but if to be in space is one thing, and to

¹ "The body in some essential respects is just like other external objects" (*Groundwork of Psychology*, p. 100).

² "The not-self which forms the indispensable nucleus or inner being of the external object is apprehended as in some degree a counterpart of our own subjective existence, and in particular as exercising a motor activity and as having a continuous existence more or less like our own" (p. 97).

³ (*Cf.* Mr. H. A. Pritchard, *Kant's Theory of Knowledge* (I have not the exact reference by me).

have external reality another, what precisely is the problem about the external reality of that which is already apprehended to be in space? From the language of pages 90-91, the problem would appear to be—'How do we become cognisant of other beings having an independent existence such as we have?' or 'existing independently of us, just as we exist independently of them'. Now, for what is already apprehended as in space, this can only mean: 'How do we come to suppose that it is conscious?' but for what is apprehended not as in space, but as in our consciousness or consisting in our sensations, it must mean: 'How do we come to regard certain of our sensations as having a reality independent of our sensing them?' This is surely the same problem as that of the apprehension of space-relations already discussed; and it is only the false notion that space-relations connect qualitatively differentiated sensations, which makes it seem that there still remains a problem about the 'independent existence' of that which is in space.

According to Prof. Stout, "it is only through the analogy of our own being that we are enabled to become cognisant of other beings having an independent existence such as we ourselves have. Thus the perception of external reality essentially involves what has been called 'the projection of self'" (*ib.*). The act of self-projection seems to be in some measure regarded as ultimate, *i.e.*, as something which is natural to each of us, and admits of no explanation; but there are certain experiences which prompt us to it, *viz.*, those of motor adaptation, so that we can explain under what conditions self-projection occurs.

Before examining motor adaptation, we are warned that we must "distinguish our own point of view from that of the individual whose experience we are investigating. We know that there is an independently real external world, and we know that the body of the individual we are considering is part of it. But we must avoid assuming at the outset that he himself possesses this knowledge. Our problem is to show how he gains it" (p. 91). It is clear then that the experiences of motor adaptation, and the act of self-projection are attributed to a being who has sensations, and knows them, but so far knows them merely as changes in his own state. It is important to remember this, in considering the account of motor adaptation and of self-projection.

Motor adaptation is explained on pages 91-96. We premise a knowledge of bodies in space, and of the connexion of psychological processes with bodily. But the subject, the genesis of whose consciousness we are studying, has not got this know-

ledge ; he is not "aware of his own organism and its movements as independently real," but only of his sensations. Now of these sensations we may distinguish three groups. There are (a) those dependent solely on the bodily movements he can himself initiate—"certain groups and series of muscle-joint-tendon sensation," which he can obtain "whenever he is interested in having them" [but in having which he is of course so far quite innocent of any thought of muscles, joints or tendons]. Again, there are (b) sensations "in the main unaffected by our free motor activity, *e.g.*, the organic sensations of hunger, thirst, or headache" [which of course he will not as yet think of as organic]. The cognition of external reality does not arise in connexion with either of these. But there are also (c) sense-presentations or sensations which, though they cannot be initiated by us, and what they are to be does not depend on us, yet depend for our having them at all or not upon the occurrence of sensations of the group (a) which we can initiate. For example, the sensations which I have when I look out of my window are not under my command like those which I have when I swing my arms : I can have the latter when and where I please, the former only if I go to my window and open my eyes and look. I have thus "a motor command of the flow of sense-experience which has to be acquired by a process of adjustment to conditions which are themselves uncontrollable," *i.e.*, I cannot determine what the view from the window shall be, but can command it, such as it is, by suitable movements. The same applies to the sensations we receive from contact with other bodies, *e.g.* in feeling a contour—we can, if we make the proper muscular adjustments, secure a certain series of contact sensations, but what the terms of the series shall be does not depend on us. Thus "motor adaptation involves at once and in intimate union the partial dependence and the partial independence of sense-experience in relation to motor control". And consequently we attribute something to ourselves, and something to a not-self. "So far as sense-experience is merely dependent on our motor activity, we do not apprehend it as qualifying an external object. So far as it is relatively independent, we do normally apprehend it as qualifying an external object. If I begin to look in a certain direction and then alternately open and close my eyes, a certain visual presentation may alternately appear and disappear. The occurrence of the successive appearances and disappearances depends merely on me. In the given situation, it is conditional merely by the alternate opening and closing of my eyes. I do not, therefore, regard it as a change to the

external object [the thought of which at all, we are told in a footnote, comes to be framed through the projection of the self]. I do not suppose that the thing seen alters its position or otherwise. On the other hand, the fact that when I open my eyes it is just this visual presentation which appears, and that when I close them it is just this which disappears, is not dependent on my own motor activity. The same motor activity might have been concomitant with the coming and going of a different visual experience. Hence I apprehend the visual experience as qualifying an external object which is alternately seen and not seen" (p. 94).

The framing of the thought of an external object involves, as has been said, the act of self-projection. For to "apprehend the contents of our sense-experience as qualities entering into the constitution of external things" presupposes the thought of "something to which these sensory contents are referred as attributes". This not-self which thus "forms the indispensable nucleus and inner being of the external object is apprehended as in some degree a counterpart of our own subjective existence, and in particular as exercising a motor activity¹ and as having a continuous existence more or less like our own". If we ask on what it depends that we suppose a not-self, to which we refer as its attributes or expressions of its nature certain "contents of our sense-experience," we are told that the general condition is "that sensible changes initiated and controlled by our motor activity resemble in character and are continuously connected with those which take place independently of us". Thus "the visual presentation of our own body and its movements" is like other visual presentations in the same field of view. Changes in the former are initiated and maintained by my motor activity; hence I suppose changes in the latter to be initiated and maintained by motor activity other than my own (96-98).

Now let us consider this theory closely. I am supposed to begin with no thought of an independently real external world of which my body forms a part. This must mean that I have no thought as yet of a world in space, distinct from the series of my 'presentations'. It cannot be maintained that I have reached the stage of perceiving space relations, while still supposing them to hold between states of myself; for we have seen that no system of qualitative differences which can subsist among my states can be spatial. Nor can

¹The motor adaptations connected with the experience of resisted motor effort are regarded as particularly important (r. p. 95).

it be maintained that I become aware of space relations that do not subsist between states of myself, while still without any thought of things existing independently of my states. Indeed, as we have seen, Prof. Stout himself has said that "the cognition of spatial relations and of external reality develop together in the most intimate union". But we have found that his premises do nothing to account for the genesis of our perception of space relations. We cannot therefore fall back upon the earlier part of the chapter for help in the later. It is, I think, part of the illusion which Prof. Stout induces, that the gaps in each half of the exposition can somehow be made good in turn from the other. Nevertheless, we must insist that he has the whole problem still before him. The man whose perception of an external world is to be explained is a man possessed merely of a flow of sensations, however much more the explaining psychologist may be aware of. If he has no thought of an independently real external world, he is only conscious of the changes in his own states.

It is supposed that in some of these changes he has experience of motor activity. But the word 'motor' belongs to the psychologist's knowledge, not to his. The most that he could be aware of is that he is in some way the cause of certain changes in his states. I will not go into the difficulties connected with the theory of conative consciousness and its fulfilment adduced to explain the experience of motor activity; it is enough to point out that the complex experience in which an interest in having certain kinæsthetic sensations is satisfied by having them is *not* an experience of motor activity to a person ignorant of anything but his own states, however much the psychologist may know that it is connected with motor activities. So far then we can only say that of some changes in his own states he is conscious that he is the initiator; and clearly he has no motive there for recognizing any reality independent of himself. Other changes occur, like the organic sensations, which he is not conscious of initiating. One would have supposed that here if anywhere would be the occasion for positing a not-self initiating them. Prof. Stout thinks not. "When the distinction between self and external thing begins to emerge, these organic experiences are primarily referred to the self rather than the not-self" (p. 93).

Has the meaning of 'external' shifted here? These organic experiences I certainly do come to suppose connected with my body. Previously, the external world meant something of which my body formed a part. Now, the external

thing or not-self seems opposed to my body. But if this shift of meaning has not occurred, the statement that these organic experiences are primarily referred to the self rather than the not-self must mean that they are regarded as states of my conscious self, not as qualities of a thing in space, whether that thing be my body or any other body. And it may fairly be said that hunger, thirst, and headache, being feelings, are states of the self that is conscious, not of the bodies it is conscious of. But then, the antithesis between self and not-self is that between the 'soul' and bodies in space. My own body is as much part of the not-self as anything else which I see; and this is consistent with saying that it forms a part of the external world. Yet in the explanation of self-projection (pp. 97-98), we are told that as the visual presentations of my own moving hand are initiated and maintained by my own motor activity, so other visual presentations, not thus initiated and maintained, but needing, in order that I may have them, the same motor adjustments as are required for following with the eye the movements of my own hand, are referred to a motor activity in a not-self. Surely here at any rate the antithesis of self and not-self is not that of soul and bodies in space, but rather of my soul and other souls. Granting that I already recognise my body as a thing in space, distinct from my soul or its states, and recognise other bodies as things in space also, I may suppose their movements to depend upon a self like mine. Primitive animism, to which Prof. Stout refers, illustrates this tendency; 'self-projection' is a tolerable, if not altogether satisfactory, name for it. With certain qualifications,¹ it may be said that here "it is only through the

¹ It cannot be maintained that we reach the apprehension of other selves by a mere argument from analogy, even granting that we are already aware of things in space, for the following reason. The thing to be explained is how I come to conceive a second self. The thought of a second self implies that I regard myself as a *particular* self—as a particular of which 'self' is the universal. Now every argument from analogy presupposes that the particular is thought of as the particular of an universal. The child who receives from a candle-flame a new and painful sensation supposes that another flame, looking like the former, will give it a like sensation; but if it did not understand that there could be two sensations like in their nature, it could not suppose this. Similarly, if it did not already understand that there could be two selves like in their nature as selves, it could never 'project itself' into its doll. But this is just the crux. For whereas I apprehend two candle-flames or two burns in the same way, I cannot apprehend myself and another self in the same way. The child supposes that flame B, being like flame A, will burn it as flame A did; it does not suppose that body B, being like body A (*viz.* its own body) will affect it as body A does. It thinks of a second self in a different way from the way in which it knows itself; it is part of the

analogy of our own being that we are enabled to become cognisant of other beings having an independent existence such as we ourselves have" (p. 90). But that inference implies that I am already aware of bodies in space, and of my own body as distinct from myself: and doubtful only about other selves like mine. 'External reality' then is already perceived; and the sentence following that last quoted—"Thus the perception of external reality essentially involves what has been called the 'projection of the self'"—is inconsequent. For what involves the 'projection of the self' is not the perception of external reality, but the apprehension of other selves.

Motor adaptation and self-projection are the two factors that are to explain how a man came by the perception of external reality. In describing motor adaptation, Prof. Stout rightly reminds us at the outset that we must avoid assuming that the individual we are considering knows that there is an independently real external world, and that his body is part of it, but he refers us to the discussion of self-projection for an explanation of how he comes by the thought of this. The discussion of self-projection, however, really implies that he has somehow already achieved it, and explains rather how he comes to suppose there are other selves connected with other bodies than his. *πέμπει μᾶλλον πρότερον.*

If we really do not surreptitiously credit the individual we are considering with a knowledge he is not supposed to have, we shall find it hard to see why the experiences which the psychologist knows as experiences of motor adaptation should aid him in the perception of external reality. When he looks out of the window he will have certain visual presentations; but he will not be aware that he is looking out of the window, and the visual presentations will be no more than states of his consciousness. There will be nothing in them to distinguish

nature of the second self that it cannot be known to it as itself is; whereas it thinks of the second burn as something which it could feel as it felt the first. The transition from myself to you is not like the transition from you to him. You and he are apprehended by me in the same way; I and you are not; but in every argument from analogy, the thing argued from and the thing argued to are apprehended or apprehensible by me in the same way. It must belong to the nature of my self-consciousness, that I recognise *my* self as only *a* self; the question *where* I am to recognise another self is quite different; as to that analogies may be used, and errors made. But it is by no inference that I achieve the former recognition; and though there may be a time at which I first do it, nothing that has gone before can account for my doing it. Indeed inference presupposes it; for though it is I that reason, I am aware, if I reflect, that the course of the reasoning—supposing it sound—has nothing to do with its being I.

them from hunger, thirst and headache—or from what carries with it even less awareness of a region of the body, *e.g.*, grief or uneasiness—except their qualitative differences, such as all our states possess, and the fact that they come only in sequence upon sensations of another sort, *viz.*, the kinæsthetic, which are to be had if we want them. Suppose that when a blind man played the piano he were unaware of the piano or his fingers as things in space, but aware only of how it felt to move his fingers, and of the sounds ensuing. The kinæsthetic sensations are under his own command; for he can have them whenever he is interested in having them, by executing the appropriate movements, though he does not know what movement is; and he learns that sometimes, when he excites these sensations, certain auditory sensations follow. It does not lie with him to determine what the quality of these sensations shall be, for that depends on the piano; nor will there always be any at all, for he may move his fingers when there is no piano: just as I may look out of the window in the dark, when no visual presentations will succeed the kinæsthetic sensations connected with the movements of my eye. But when the kinæsthetic sensations connected with the movements of his fingers are followed by auditory sensations such as a piano produces at all, it lies with him to determine in what order the latter shall come. The “flow of sense-experience” is thus partially under his control, through a “process of adjustment to conditions which are themselves uncontrollable,” *viz.*, the position of the notes on the piano; it is “relatively independent”. Why does he not refer the sounds to an external object in the same way as he is supposed to refer his ‘visual presentations’? It will be said that he would suppose there is an external object sounding; and of course I grant that; there is no dispute about what we come to think, but only about the value of a proposed explanation of how we come to think it. But my point is that he does not come to regard the sounds as qualifying the external object in the same way as (say) colours, *e.g.*, they are not conceived to be alongside one another in its surface: whereas in regard to all that is supposed to determine the perception of external reality there is no difference between this case and that of a man looking out of the window, if we once grant that his experiences can be to him originally no more than states of his consciousness. A man can initiate movements which cause him pain, or thoughts which make him sad or happy, though the pain would not come without the movements, nor the grief or joy without the thoughts. Such pain or grief or joy is ‘relatively independent,’ no less

than 'visual presentations' are; but except so far as he locates the pain in his own body, they are never taken to qualify an 'external object'. Nor can one see why the fact that certain of a man's states of consciousness were found to be obtainable by him not directly, but only in sequence upon states of another kind that are directly obtainable, should make him think they qualify an external object. The most one can see that it might lead him to suppose is, that a being other than himself produced them in him. And this he would surely be the more inclined to suppose of those states which he could not even indirectly obtain, such as "hunger, thirst or headache". Yet, according to the theory, the cognition of the external world does not arise in connexion with these.

It is doubtless true that the perception of external reality does arise in connexion with looking at or handling things. It is also true that in looking at things it does not depend on the looker how they shall appear, but only that they shall appear or not, and that these or those shall appear, according as he opens or shuts his eyes, and moves them in this or that direction. It is true again that when his hand comes into contact with an obstacle, he cannot continue its motion without increased effort. But Prof. Stout has tried to describe what flow of sense experience a man would have who looked at things and handled them, yet in doing so was quite unaware of anything but states of his consciousness, and then how the relations of these states to one another supply the perception of what at the outset was not perceived. Why, if he does not perceive external reality at the outset, should he ever come to do so? If Prof. Stout held, with Hume, that the things I am said to perceive *are* no more than states of my consciousness connected through association, his theory would have its *raison d'être*. But he does not believe this. "We know that there is an independently real external world;" "the individual we are considering" does not possess this knowledge, but he comes to possess it, like us, for we too must have started as he does. Why on earth should the fact that in seeing and handling we become aware of that which exists in space and independently of our seeing and handling it be made more intelligible by supposing that at the outset we see and handle without becoming aware of anything of the kind? I have tried to show that in point of fact, if we were at the outset shut up within our own states of consciousness in the manner supposed, there is nothing in those features of their succession to which Prof. Stout appeals which should give rise to the perception of the 'external reality' we come to perceive. That they should give rise to

it is every whit as mysterious as the initial apprehension of it which he seeks to avoid admitting. The most to which they could lead (and that only in a being already capable of thinking about causes) would be the thought of a spirit or spirits other than ourselves, producing changes in the series of our states of consciousness: performing in fact the part which God does for Berkeley. They could not lead to the perception of our fellow-men, or of things in space, any more than on Berkeley's theory we can be said to have a perception of God.

I believe that this is partly concealed by the way in which words like 'experience,' 'appearance,' and 'visual presentation'¹ are used. Such words want a genitive. If the genitive were added, however, it would be implied that from the outset our awareness is of something other than our own states. Consider again the language of the passage already quoted from page 94: "If I begin to look in a certain direction and then alternately open and close my eyes, a certain visual presentation may alternately appear and disappear. The occurrence of the several appearances and disappearances depends merely on me. In the given situation, it is conditioned merely by the alternate opening and closing of my eyes. I do not therefore regard it as a change in the external object. I do not suppose that the thing seen alters its position or otherwise. On the other hand, the fact that when I open my eyes it is just this visual presentation which appears and that when I close them it is just this which disappears, is not dependent on my own motor activity. The same motor activity might have been concomitant with the coming and going of a different visual experience. Hence I apprehend the visual experience as qualifying an external object which is alternately seen and not seen."

Here (1) "the alternate opening and closing of my eyes," "my own motor activity," are phrases which belong to the 'point of view' of the psychologist, not of "the individual we are considering". If he knew about his eyes he would know already about external realities that were not his visual presentations. (2) A "visual presentation" is clearly intended when first mentioned to be a state of my consciousness, part of the "flow of sense experience". Otherwise, why should not Prof. Stout write that when I alternately open and close my eyes, a certain thing may alternately appear and disappear? What then is the "thing seen"? Either it can be distinguished from the "visual presentation" (or

¹ And also 'content'.

"visual experience") or it cannot. If it can, why do I not continue to suppose that the "visual presentation" comes and goes, but the "thing seen" does not, without imagining the former to qualify the latter? If it cannot, then either I must apprehend from the outset what is not a part of the "flow of sense-experience," or I do not do so at all. Clearly, when it is said that "I do not suppose that the thing seen alters," I am led to understand the words about the visual presentation alternately appearing and disappearing as meaning *the presentation of the thing, i.e., the seeing of it*. But when it was said to appear or disappear, the term meant *what is seen*. (3) How can I "apprehend the visual experience as qualifying an external object which is alternately seen and not seen"? The visual experience which "comes and goes" is my *experience of the object*; but that neither is nor can be apprehended as qualifying the object. Surely what qualifies the object is *its* quality; but what belongs to the experience of "the individual we are considering," who does not yet know there are objects in a "real external world," cannot be its quality, but his own states; how can he apprehend these as qualifying the object? If "our own point of view" is to be distinguished from his, it must be because we apprehend real objects, and he apprehends something else; and he cannot get from his point of view to ours by coming to think that his states are qualities of the object; for that would be an error, and so he would not be getting to know objects.

Mere criticism is ungrateful, though not always unprofitable. I hope the foregoing will not be taken to imply any disrespect towards Prof. Stout, to whom students of philosophy, and the readers of MIND in particular, owe so much. If it has any value, that is largely due to Prof. Stout himself, and to the ability with which he has developed the position I have been attacking. It will have been noticed also that I owe much to the line of thought suggested by Mr. Prichard in his book on *Kant's Theory of Knowledge*. What follows may be altogether valueless; I add it very tentatively, and recognising that I may later wish to recast or recall it; but it is perhaps fairer for a critic to indicate his own standpoint. It seems to me, then, that Prof. Stout has never really abandoned the *πρώτον ψεύδος* of the psychological school on which he is trying to improve, I mean the belief that 'ideas' or 'presentations' as something distinct from things, and merely 'in the mind,' are that of which we are each primarily aware. Here he is, I should say, unfortunately, in good company; for Kant's *Vorstellungen* are the same thing, and Green's 'facts

in the way of feeling,' and Mr. F. H. Bradley's 'psychological ideas'. And they all have the same difficulty in getting away from these. Those who think, with Hume, that what we come to apprehend is no more than complexes of these may claim to be offering some explanation of the genesis of our apprehension of objects, as they conceive objects. But Prof. Stout does not think this; he holds that we come to do, under conditions which he seeks to state, what it is as mysterious that we should do under those conditions, as that we should do it *ab initio*, viz., apprehend things, and in a space, independent of our apprehension. Now this *πρῶτον ψεῦδος* goes back, as Reid pointed out, to Descartes, whose *pensées* or *idées* are the modern 'presentations'; but I think it goes back much farther, to Aristotle, and flows from the *de Anima*, with its mischievous doctrine that the soul is the form of the body. Aristotle adds to that notion another notion about the reception in the *αἰσθητήριον* of the *αἰσθητὸν εἶδος* without the *ὕλη*; e.g., in touch, the heat or cold, which may be said to be the form of the tangible body, as a state of it, is received in the organ of touch, by its becoming similarly hot or cold; and that fact is conceived to throw light on the soul's consciousness of heat or cold; similarly in hearing, the *κίνησις*, which is the form of the sonant body, is reproduced in the *σύμφυτος ἀήρ* of the ear. Thus in perception the form perceived becomes the form of the perceiving organ in the body; and the soul is the form of the body; and so Aristotle was led to speak of the soul as receiving the forms perceived (and also, of course, the *ροπή εἶδη*), and to think, in a confused way, that perception is somehow explained by their getting into the soul. They are the lineal ancestors, as I suspect, of *idées*, 'ideas,' 'perceptions,' or 'presentations'. I suspect also, though I do not know enough to substantiate it, that the filiation may be traced through the schoolmen; at any rate in St. Thomas there is much of what seems to me mere mythology on the subject on these lines; and Locke of course thought he meant by 'ideas' what the schoolmen meant by species or notions. In questioning altogether the view that what we initially apprehend is something 'in the mind' or mental, I am conscious of many difficulties, for which at present I see no solution; in particular I am not happy about supposing that space is real independently of all consciousness: I do not understand what I mean by solidity, nor by what fills space; nor what by the real magnitude of anything. Nevertheless I still think that "to be is one thing, to be perceived is another," and that when I perceive, I perceive something in space, existing

independently of its being perceived ; it is a further question, which of its qualities belong to it thus independently, but at any rate the 'external object' is not a mere *x*, that I posit as the cause of 'perceptions' in me. Perhaps it may turn out that, though independent of perception, things in space and the minds that perceive them are both so dependent somehow upon one real, as to justify us in saying the existence of things is not independent of the existence of minds ; but it would still be independent of their being perceived by minds. However this may be, I believe there is no real coherence in the line of thought I have been criticising ; and if that be so, it must be well to realise it.

II.—THE TRUTH OF PROTAGORAS.

BY C. M. GILLESPIE.

THE dictum of Protagoras, "Man is the measure of all things," was, according to Mr. Schiller, the first statement of the fundamental principle of Pragmatism, or as he prefers to call it, Humanism.¹ No one has ever doubted that Protagoras was a humanist in the older sense of the word: he was a sophist, and insisted perhaps more emphatically than any of his colleagues that the true aim of education is not the acquisition of learning but the training of the citizen. But Mr. Schiller asks us to believe that the greatness of Protagoras lay in his epistemology, for he held one of the positions which modern Pragmatism regards as peculiarly its own. According to the current interpretation of the *homo mensura*, Protagoras taught that the judgment of the individual is final. This, Mr. Schiller argues, is wrong. Protagoras taught that every judgment *claims* to be true, but that its *validity* depends on other conditions, according to the common way of thinking. Where he differed was in making utility for human purposes, and not correspondence with an independent archetype, the test of validity. Truth is essentially a *value*. Protagoras' theory of reality was not, as is commonly supposed, relativist, but pragmatist.

The existence of so subtle a theory at a time when epistemological investigation was in its infancy excites doubt as to the correctness of the interpretation. This doubt is intensified by an examination of the only evidence we have of any importance, the writings of Plato. The *Theætetus* is of course our chief witness, but the *Protagoras* and the *Cratylus* afford valuable corroborative evidence.

But is Plato a trustworthy witness? His good faith is not challenged by Mr. Schiller. Mr. Schiller even goes farther than many critics in allowing that the views enunciated by the *Protagoras* of the Dialogues may be attributed to the historical Protagoras.² Here I believe Mr. Schiller to be in

¹ *Studies in Humanism*, pp. 32 ff. ; *Plato or Protagoras?* *passim*.

² *Plato or Protagoras?* pp. 9 ff. I do not accept Mr. Schiller's account of the circumstances which led Plato to epitomise the work. Prof. Burnet

the right. I agree with him in regarding the defence of Protagoras in *Theætetus*, 166 ff., as containing the key to the interpretation of the *homo mensura* : it is not purely imaginary nor a statement of the views of a later follower of the sophist, but an exposition of the doctrine of Protagoras as Plato understood it. That Plato had read the work seems proved by the statement of Theætetus that it was familiar to him (152 A). The same principle of interpretation may fairly be extended to the profession of his faith as a public teacher put into the mouth of Protagoras in the dialogue of that name: the writer's attitude in that part of the dialogue is sympathetic rather than critical: and the carefully drawn portraits of various sophists would lose point if Protagoras were not made to speak in character. But Mr. Schiller questions Plato's insight. The account given by Plato is a travesty of Protagoras' real meaning, which Plato did not understand, but which may be reconstructed out of the data furnished by Plato himself. Such a charge is obviously difficult to establish in the absence of independent evidence; the central count must be that Plato's version exhibits inner inconsistencies so great that it cannot be accepted as an adequate rendering of the original.

Mr. Schiller, together with most critics, treats the *homo mensura* as an epistemological principle of universal validity, and there can be little doubt that Protagoras meant it to be so, especially if the words in which it was stated were the opening words of his "Truth". But it is all-important to find out how he approached the question. Plato's own theory of knowledge was profoundly influenced by his mathematical studies. Was Protagoras similarly led to formulate his principle through the examination of a certain *kind* of knowledge, and, if so, what kind? The only way we can determine this point is to consider the *illustrations* of the principle given by Plato. We cannot be quite sure that Protagoras had these applications in mind in the formulation of his dictum: but if the Defence of Protagoras is substantially historical we are entitled to make use of them, and if we can show that they really throw light on the meaning of the dictum, there is a strong presumption that facts of the kind brought forward in the illustrations weighed largely with Protagoras himself.

Now the examples of the principle, which Plato treats as

(*MIND*, N.S., xviii., 422) denies that the Defence can be in substance a genuine argument of Protagoras', mainly for reasons of date. His criticism seems to me valid against Mr. Schiller's account, but not to invalidate the position taken in this paper.

asserting that *ἐστίν* is equivalent to *δοκεῖ εἶναι*, fall into two well-marked classes. The first comprises the secondary qualities of matter as perceived by the senses, cold, heat, sweet, bitter (152 B, 166 E, 171 E); the second τὰ πολιτικά (172 A), especially justice, moral and social principles and virtues. In the absence of other testimony we must accept these as prominent applications given by Protagoras himself to his own principle.

This being granted, we must next inquire what appear to be the relations of these applications to each other. In the Defence there is no doubt whatsoever: the example of the physician who substitutes a good sensation for a bad in his patient's experience is an illustrative analogy leading up to the conception of the sophist or public teacher who induces the community to accept good opinions on Justice in place of bad. At an earlier stage of the dialogue, indeed, the sensation-application appears by itself. In 152 A the assertion of Theætetus that sensation is knowledge is said by Socrates to be equivalent to the *homo mensura*, and the example of the wind that feels hot and cold to different people is adduced in illustration. But in what follows Plato is careful to show that he is not directly criticising Protagoras, but doctrines which he regards as having an affinity with the dictum. The assertion of Theætetus is correlated with (1) the dictum of Protagoras, (2) Heraclitism (152 C), by which Plato simply means the assumptions and methods of physical science such as all philosophers except Parmenides (152 E) have adopted; (3) a refined theory of sense-perception (156 A) attributed to certain κομψότεροι, the discussion of which develops a system of psychology without a soul. It is quite clear that in (2) and (3) Plato has in view others than Protagoras. The preliminary dialectical criticisms on Protagoras in 161 A ff. contain no reference either to the Heraclitism or to the detailed theory of sense-perception; the tone of the Defence, 166 ff., shows that the writer does not endorse these criticisms, and suggests that Plato is here condemning the polemical methods of other critics of the *homo mensura*. It appears, then, that the application of the *homo mensura* in 152 is really a peg on which to hang an account of contemporary theories starting from the same empirical point of view, and that the real importance of the sensation-application is to be obtained from the Defence, where it is subsidiary.

This leaves the only serious application of the principle in the Defence an ethical and social one. Have we any evidence to support or oppose the interpretation suggested by the Defence that this was the application which Protagoras

himself chiefly had in view? Gomperz denies this on two grounds (*Griechische Denker*, i., 362): (1) the emphatic universality of statement shows that it was meant as an epistemological principle; (2) there is no evidence that Protagoras applied it to ethics, though his followers may have done so. The second point falls altogether if the Defence is substantially the view of Protagoras himself. With regard to the first, the dictum may have been an epistemological principle of general import, and at the same time have been originally motivated by ethical interests.

Now there is conclusive evidence that the main interest of Protagoras was ethical. In *Protagoras*, 319 D, E, he is depicted as teaching only the arts of the citizen (*οἰκονομική* and *πολιτική*), and as looking with disfavour on the mathematics, astronomy and music taught by other sophists. The dialogue as a whole bears out this statement: the subject is an ethical one, "Can virtue be taught?" The positive contribution of Protagoras to the discussion is a striking discourse on the origin of society and the influence of society on the individual. The Defence of Protagoras in *Theætetus*, 166 ff., begins and ends with an attack on captious criticism, in which we must suppose that Plato is really expressing his own views. The central section, in which Protagoras is supposed to supply the detailed meaning of his dictum (*ὥδε ἔτι σαφέστερον μάθε τί λέγω*, 166 E), is quite short and consists of two parts only. The first illustrates the principle by the case of the physician who restores his patient to normal health, whereby the wine which before tasted bitter comes to taste sweet. The second applies it to politics: that is right which seems right to the community; the orator is the physician who brings the community to a better state of health. Can there be any doubt that the former application is an analogy to illustrate the latter? The clearest proof that it is an analogy is to be found in the fact that the function of the physician here described is an accidental one: his essential aim is to restore the patient to health, not to change his perception of the wine. The trivial case of the physician and his patient is treated just so far as it seems parallel to the important case of the publicist and the state. Better health in the state is better opinions as to right and wrong, and so better health in the patient is regarded as better feelings. The Heraclitism and elaborate theories of sense-perception of the earlier passages are not alluded to. The Defence of Protagoras is substantially a vindication of his position as a moral teacher, and is in striking agreement with the profession of faith assigned to him in the *Protagoras*. We have

the same personal note; the teacher expounding the aims of his teaching; the same defence of the sophist's art on the same grounds; the sophist makes men better in the sense of being better able to transact public and private business; the same disclaiming of special knowledge.

Thus the inner evidence of the passage itself, supported by the resemblance to the *Protagoras*, leads us to seek for the real meaning of the dictum in the words which must be regarded as the climax of the Defence, but to which Mr. Schiller seems to attach little importance (see *Plato or Protagoras?* pp. 15, 16), viz.: οἳ ἄν ἐκάστη πόλει δίκαια καὶ καλὰ δοκῇ, ταῦτα καὶ εἶναι αὐτῇ, ἕως ἂν αὐτὰ νομίσῃ (167 C).¹

Now there is no doubt whatever about the meaning of these words, taken in themselves. *Δίκαια* are the legal principles, *καλά* the wider social and ethical principles current in the community (see the *Dialexeis*). The *νόμος* of the community determines for it the standard of right and wrong; and when it is stated that the adviser cannot do more than substitute a good system of right and wrong for a bad one, the primary reason for this is that the distinction of right and wrong is regarded as dependent on the will of the community.² The individual as such is not the measure of right and wrong: the community is. Right and wrong imply an authority other than that of the individual. A similar insistence on the rôle of the community is found in the *Protagoras*. The myth describing the origin of society represents Justice as a *social* fact (322 D), and society is later treated as the great moral teacher (325 C ff.).

Thus in morals the *homo mensura* means in the first place that the community is the authority, the judge of what is right and wrong. But when Protagoras insists that *man* is the measure he means *man and not another authority commonly accepted*. What can this authority be? Something supra-human. In the then state of thought this can only mean *the gods*. The dictum must be primarily a claim for free-

¹ Surely Plato intends the main emphasis to fall on this sentence, the only one in the detailed defence which puts with full explicitness that identification of appearance and reality which he treats as the essence of the *homo mensura*. To me it reads underlined. Mr. Schiller takes no more notice than this: "the sage or sophist performs a similar service for cities" (*Plato or Protagoras?* p. 16); "cities often do *not* know their own advantage" (*ibid.*, p. 24). His interpretation of the Defence seems to throw the emphasis on the wrong words throughout.

² I have stated this in modern terms. A Greek would always say the *judgment* of the community where we say *will*: you act on your view of what seems good to you. The ambiguity of the verb *δοκεῖ*—appears and appears good—makes the transition from the perception of the fevered patient to the will of the community very easy.

dom of thought in ethical matters, a claim that has been conceded in physical matters. You must not, he says in effect, regard the social reformer as impious because he seeks to probe and perhaps to remove long-established usages which are regarded as having a divine sanction. All human laws and customs are made *by* man, not *for* man: *actual* morality is νόμος and not φύσει. To this extent, at least, man "makes his own reality".

But this is not all. If we look at the subject empirically, historically, we shall see that they have been made by man in the course of his pursuit of happiness. This is the teaching of the myth in the *Protagoras*. If the account there given of the origin of society is divested of its mythical trappings, it appears that a distinction is drawn between the original and the acquired capacities of men. Man is born with the capacities of the other animals, and in addition with the knowledge of the arts, based on the use of fire. But the πολιτικὴ τέχνη is a later development (321 D), prompted by the misery of the natural state of war. The law is a means adopted by men who have formed themselves into communities, a means to the end of happiness. This is the familiar convention-theory of society.¹ Now, says Protagoras,

¹ I cannot understand the persistence of the critics in holding that the myth in *Protagoras*, 320 C ff., contains the position that Justice is φύσει and not merely νόμος. See, e.g., Susemihl, *Die genetische Entwicklung der Platonischen Philosophie*, i., 46; Horn, *Platonstudien*, i., 41; Wundt, *Geschichte der griechischen Ethik*, i., 266. Their reasons seem to be two: (1) reverence and justice are given to men by Zeus, whereas the other human faculties are allotted by Prometheus; (2) Zeus instructs Hermes to distribute them among all men, not among sections like the special arts. Hence it is said that the myth represents reverence and justice as universal instincts (Susemihl, *l.c.*). Now Prometheus simply *is* Nature, in the sense in which Nature is contrasted with Convention. The natural man *lacks* the social virtues. But he tries to form societies; i.e., society is man-made, not Nature-made. And it is made in the course of the effort to avoid unhappiness (322 B). The reason why man alone tries to form society is that he has special intelligence, symbolised in the myth by his participation in the Divine nature (322 A). Zeus is a mere *deus ex machina*; his appearance in the story is due to the requirements of the myth-form, which represents all faculties as gifts to man. Justice and reverence cannot be introduced as given by Prometheus, who stands for Nature; Zeus is simply *reason*. This is made clear by the words of Zeus himself; Zeus does not pose as an all-powerful benefactor to man; he speaks as the rationalist inquirer who sees that these virtues are indispensable to the existence of the state. The myth emphasises, not their divine origin, but their essentially social character. . . . Then again the distribution to all men (322 D) has been misinterpreted. Your commentator either tries to read Platonic principles into the speech of Protagoras (Susemihl, *l.c.*) or, because it is put into the mouth of an opponent of the Platonic Socrates, is on the look-out for inconsistencies. Thus, when Protagoras in 323 D states that social virtue is not original

you must not regard the moral teacher who propounds new ideas as one who is trying to upset the established order. Rightly regarded, he is only doing what you have been doing all along, endeavouring to the best of his ability to secure human happiness. And on the other hand the teacher must not lay claim to superior wisdom: his attitude can only be this: "if you adopt my suggestions, and make them law, as you have every right to do, you will find that they will lead to your greater happiness. But I do not set up as an infallible authority; *you* must judge ultimately what happiness is and whether my schemes will promote it. But you must judge rationally: not under the influence of custom and tradition, but in accordance with the carefully thought-out results of your own experience." Not only *actual* moral codes are νόμος; the ultimate principles of morals are νόμος, founded on men's judgments of what is for their advantage.

Thus the dictum provides an epistemological basis for the contemporary theory that society is conventional. It establishes a human foundation for moral and political obligation. Plato took it in this sense; in *Theaetetus*, 172 A, B, he points out that many hold that Justice is by convention but the Good by nature, whereas Protagoras teaches that both are by convention (*cf. Republic*, vi., 505 A). This view accords well with the general standpoint from which Protagoras must have regarded his problems. The theory that the state originated in a social compact and the closely allied account in the myth of the *Protagoras* treat society as progressive, in

but acquired by the individual, he is said by Horn (*l.c.*) to be contradicting the earlier statement that social virtue is given by the gods to all men. There is no contradiction. We need not resort to the device of saying that Zeus gave the capacity for virtue to all men, but that training is also necessary for its development. It is never stated that Hermes gave it to all men without exception; the actual words of Zeus, "and lay down a law that he who cannot partake of reverence and justice shall be slain as a plague to the state" (322 D), contemplate the existence of individuals devoid of these virtues. Protagoras is not arguing that the social virtues are universal instincts; he is looking at the whole question from the side of the state, not from the side of the individual, and maintains that the state cannot stand unless the social virtues are widespread and therefore capable of acquisition by the normal man. There is no question of instincts; the virtues are treated throughout as accomplishments. Thus the whole Zeus episode is simply the statement of the position that justice and obedience are social virtues. In 323 C ff. Protagoras proceeds to show that in actual societies the community itself is the higher power that instils these virtues into the individual mind; Zeus really is the collective experience of the race, practical reason engaged in securing the general happiness. Remove the mythical dress, and the account is closely akin to J. S. Mill's utilitarian description of the origin of morality. Note that the doctrine that punishment is essentially preventive (324 A) is pure utilitarianism.

direct opposition to the poetical conception of a Golden Age. They are substantially an application to human society of the principles long accepted in the interpretation of the physical history of the world—from Anaximander to Anaxagoras—and reflected in the historical methods of Thucydides. Protagoras is strongly imbued with the spirit of the physical science of the day. The methods of empirical science are patent alike in the development of the *homo mensura* and in the theory of the origin of society assigned to him in the *Protagoras*. That his general starting-point was that of empirical science is implied by the fact that Plato brackets his dictum with Heraclitism in the *Theætetus*. There are indications that he was much influenced by Atomism. The subjectivist treatment of sensation has a closer affinity with this than with any other of the physical systems. His sceptical attitude to religion accords with the position of Democritus, and is in marked opposition to the efforts of Diogenes of Apollonia and others to reconcile science and religion.

I do not think that we can regard the dictum as primarily directed against Parmenides from the standpoint of empirical science. The only direct evidence for this interpretation is a citation from Porphyry in Eusebius (*Diels*, FVS. 537). Porphyry states that he has come across a work by Protagoras on Being, which contains detailed arguments against the Eleatic position. Was this work the same as the *Truth*? Even if we grant that this work on Being was genuine, we need not suppose that the main object of Protagoras was the refutation of Eleaticism. Plato and Aristotle do not bring the dictum into close connexion with the Parmenidean principle. The *Theætetus* treats it as a corollary from the assumptions of physical science, not as a justification of these assumptions, and Aristotle follows suit in the *Metaphysics* (1009 b, 1 ff.). As we have seen, the chief application in the *Theætetus* is to ethics, which we have no reason to believe specially interested the Eleatics. Moreover, the wording of the dictum does not suggest that it was directed against Parmenides; the *ἄνθρωπος* is pointless, for Parmenides and Zeno might reply that in their system human reason is the measure of reality. Protagoras would have to argue on the lines of the Gorgian paradoxes, that there is no human faculty capable of apprehending the Eleatic Being. We have no evidence of his having argued on these lines. Again the plural *τῶν ὄντων* suggests that Protagoras is assuming, not proving, the plurality of being, *i.e.* the empirical standpoint. Moreover, the examples tending to prove that you cannot say

what the wind and the wine are in themselves have no force against Parmenides, who denies the reality of the wind and the wine; they follow the same line of thought as that which led Democritus to his physical doctrine of the secondary qualities of matter. I cannot, therefore, admit that the dictum was primarily directed against the Eleatics, though Protagoras may have argued against them incidentally or in another connexion.

Further, there is evidence that Protagoras was specially interested in theological questions. The list of works attributed to him by Diogenes Laertius (ix., 55, *Diels*, FVS. 526) contains the names of a treatise *περὶ θεῶν* and another *περὶ τῶν ἐν Αἴδου*. The famous passage expressing scepticism about the gods is quoted by Eusebius (*Diels*, FVS. 537) as from the beginning of the former work. There is reason to believe that this treatise was the second part of the work called *οἱ Καταβάλλοντες*, of which the first part was *ἡ Ἀλήθεια*. Plato cites the *homo mensura* as from the beginning of the *Truth* (*Theæt.*, 161 C), Sextus Empiricus (adv. math., vii., 60, *Diels*, FVS. 536) as from the beginning of the *Καταβάλλοντες*. Now Euripides' *Bacchæ*, 199-203, contains a reference to the Protagorean scepticism about the gods, in which occurs the phrase *οὐδεὶς αὐτὰ καταβαλεῖ λόγος*, which suggests that the scepticism was expressed in the *Καταβάλλοντες*. And why the plural? Were there three parts of the *Καταβάλλοντες*, the *Truth* (perhaps with the sub-title "On Being"), *Concerning the Gods*, and *Concerning Hades*? The title of the last-named work is not well attested:¹ but it would be quite in accordance with the doctrines of Protagoras to deny that there is any retribution or reward for men in an after-life. Was the whole book the *μέγας λόγος* of Anecd., Par. (*Diels*, FVS. 537)?

Prof. Burnet (*MIND*, N.S., xviii., 423) conjectures that Protagoras "had merely intended to attack the mathematical and astronomical science of his day" and especially the infinite divisibility of space. The dictum would thus be primarily connected with the sensationist critique of the geometers alluded to in Aristotle, *Metaph.*, 997 b, 32. This would explain the use of the word "measure". But in the absence of direct testimony that the dictum was ever so understood in antiquity, Prof. Burnet's reasons seem insufficient. As far as I can understand the meaning of his remarks, he classes Protagoras and the Atomists together as

¹ It appears only in the list of Diogenes, which contains some titles apparently derived from misunderstandings of passages in Plato; and *Diels*, *l.c.*, suggests a confusion with a work attributed to Democritus.

opponents of the new mathematical science of Western Greece, instancing the Atomist view of the earth as disc-shaped, as showing that Atomism stands nearer to immediate experience than the Pythagorean view of the earth as spherical. What has the latter to do with the doctrine of infinite divisibility? Does not Atomism itself notoriously transcend the sensation point of view? So far as antiquity is concerned the dictum is interpreted as fatal alike to the atoms of Leucippus and the points of the Pythagoreans. Again, I cannot see how the account of the researches of Theætetus into the theory of square roots in the introductory part of the *Theætetus* would convey to a reader of the dialogue the original application of the *homo mensura*, viz.: its attack on incommensurables, of which there is no direct suggestion in the whole course of the dialogue. This account is introduced *prima facie* as an example of logical method, and there is no obvious reason for connecting it more closely with the discussion of one definition of knowledge than with that of another.

It seems to me that several difficulties in connexion with the *homo mensura* are easily solved by this interpretation of it as being primarily ethical.

First, the connexion of truth and "value". Mr. Schiller regards the subsumption of truth under the concept of utility as the central doctrine of Protagoras, and holds that Plato is mistaken in making its essence to be subjectivism. I submit that there is no evidence in the Defence or elsewhere for Mr. Schiller's view; that the only reasonable interpretation is that Protagoras taught that man alone determines what is good and useful. Mr. Schiller has to admit that in Plato's account Protagoras does not say that the better is the truer: the sophist who induces in his public a "better" opinion in place of a "worse" does not substitute a "truer" for a "less true": in fact Protagoras is made to assert degrees of value and deny degrees of truth. But Mr. Schiller treats this as merely a technical divergence from the pragmatist principle (*Plato or Protagoras?* p. 17). I hold, on the contrary, that Protagoras subsumes the *right* (just) under the *useful* (good), and that the association of truth with utility is secondary and accidental. He draws a distinction between the Just, law and custom, and the Good, human welfare. This distinction is a commonplace of Greek ethical discussion from the outset. Early ethical thought assumes that men must be just, obey the common moral code of their state, and inquires what is the best kind of life subject to this condition. The thinkers

of the Enlightenment first raised the question whether this condition was binding, by analysing the grounds of moral and political obligation. We know from Plato that many found the claims of the state (justice) and those of the individual (happiness) to be irreconcilable. Hence the doctrine that might is right and the glorification of tyranny. But these are not the views of Protagoras. His political ideal is the free democratic state. His ideal of private life is that of the citizen of such a state. He accepts the right of the community to coerce the individual in its own interests.¹ For the law is a necessary means to the good of the whole. So far as the Just is concerned, man is the measure, for the community is the authority. The object of the teacher is to show that if the community will accept new—not truer—conceptions of justice, it will tend to their welfare, be better for them. But here again the *homo mensura* comes in, for it is implied (1) that the teacher forms some judgment of what is to the public advantage, (2) that the public forms a similar judgment. Thus from first to last, what is right, *i.e.* useful, and what is good, is determined by some human judgment.

If it be objected that the association of truth with utility is asserted in the *Theætetus* universally, and not merely in connexion with morals, I reply: (1) it is not universally asserted, but only in connexion with the teacher (166 D) and the physician (167 B); (2) the application to the physician is not independent, but an analogy to illustrate the application to the teacher; (3) the *Protagoras* proves that Protagoras openly professed to teach nothing but the principles of public and private conduct; the contents of the Defence show that the immediate subject of discussion is the principles professed by Protagoras as a teacher. If, therefore, we can find a simple explanation of the association of truth with utility, by assuming that ethical truth is meant, an explanation in accordance alike with known tendencies of ethical thought in the fifth century and with Plato's interpretation of the dictum as asserting the identity of seeming and being, we are justified in accepting it.

Another difficulty is easily explained on these lines. Did Protagoras mean man as such or each individual man? Both. In his *general* statement of the dictum he did not distinguish, because the distinction was irrelevant to his purpose. If he was arguing for the *right* of men to solve their social problems in their own way and in view of their own happiness, it was not to the point to draw a distinction between men in general and individual men. Hermogenes in

¹ *Protagoras*, 322 D.

the *Cratylus* (384 C, D) in stating the case for the theory that names are *συνθήκη* allows both private and public names: if names are arbitrary, not fixed for man by Nature, every man has a right to give any name he pleases to any thing; from this point of view it is not a matter of principle, though convenient for purposes of communication, that individuals should use the same names for the same things. In the same way a naturalistic utilitarianism regards society and the observance of public rules by individuals as means to the happiness of individuals.

Another feature of the Protagorean doctrine is most easily accounted for on the principle that the dictum is primarily connected with the νόμος theory of society. The Platonic treatment implies that on Protagorean principles not only is the judgment true for the maker, *but it does not claim to be true except for the maker*. The standpoint is empirical and naturalistic. Man (as in the myth of the *Protagoras*) is a part of Nature and differs from the other animals mainly in respect of his capacity for social life. What is good and useful for one creature is not necessarily good and useful for another (*Protagoras*, 334 A, B). Social judgments about right and wrong are the ways by which man adapts himself to the attainment of his own good. If we consider the variety of customs and of moral judgments, we shall see that in passing judgments of right and wrong, useful and hurtful, good and bad, men do not really mean to assert their objective validity beyond the limits of their own society and their own conditions of life. Right and wrong, good and bad are always *τινί*. If I assert this is right, I must qualify with "for an Athenian, for a Spartan". And the judgment is always *by* an Athenian or a Spartan. Humanity is composed of a number of groups, each of which passes judgments claiming validity only for itself, and having no higher authority. Hence their beliefs are true so long as they continue to hold them. Within the group there may be individual variations of opinion, but society is banded together to suppress these. Teachers and reformers there are, but their function is confined to changing public beliefs.

Again, this interpretation gives point to the retort, "How can you on your own principles lay claim to wisdom?" For Protagoras was a professed teacher of the principles of practical conduct. If in his treatise on the Truth he laid special emphasis on the point that all moral judgments are equally true, the question at once arose, what were his claims to be a teacher? He had an easy answer. In a free community of educated men he laid no claim to superior

wisdom: he only asked them to listen to one who had thought on these matters more than most, and to consider for themselves what he had to say. He claimed the attention due to the *φρόνιμος*, not the obedience exacted by the *σοφός* or expert.¹ His colleague the physician is not the judge whether the wine tastes well or ill to his patient; for this he must rely on the statement of the patient himself; but he is able to make it taste well. So the sophist claims that if his hearers will only listen to him, he can make them come round to his way of thinking. Yes, replies Plato in the *Republic*, but that is just because the sophist really takes his principles from his public.

I should maintain that the Humanism of Protagoras has a naturalistic rather than a pragmatist tinge. Moral truth is resolved into beliefs, treated objectively as means of adaptation to circumstances, like the protective fur and wool of other animals. The superiority of the teacher is ultimately his power to change beliefs; as man is assumed to be always animated by a desire for his own advantage, this power shows itself in his ability to convince his audience that it will be to their advantage to adopt new measures, new ideas of right and wrong. Progress implies a struggle between ideas.

I may be asked: if the examples from sense-perception were in essence illustrations supporting a theory of the moral judgment, why did Protagoras choose them? Several reasons may be given. Whether or no the distinction between the primary and secondary qualities of matter had been explicitly drawn by the time Protagoras wrote, the scientific investigations into the conditions of sense-perception must have called attention to the variability of certain kinds of sense experience. As the examination of knowledge as knowledge began with the investigation of perception and the perceptual judgment, one of the first discrepancies to be noticed would be that between the judgment of sensation "it feels cold, tastes sweet" and the judgment of perception "it (the wind) is cold, it (the wine) is sweet". The latter claims an objective validity which the former does not. To a writer anxious to get simple illustrations for the principle that the Just and the Fair are valid only for the community which adopts them and not for other communities, the parallel of the judgments of sensation and perception is apt. As a matter of fact, Plato's real ground for rejecting Pro-

¹ Compare the argument that every man's judgment has value in politics (*Protagoras*, 323 A, B).

tagoreanism in the *Theætetus* is that he regards it as reducing all judgments to the level of these judgments of sensation. There is another reason for the choice: cold, warm, bitter, sweet are intrinsically good or bad. Cold and bitter are *per se* unpleasant, so that the change from bitter to sweet sensations is a change from bad to good experience, of which the individual is the sole judge. This is the point: the individual is sole judge both of the sweetness and of the pleasantness. We must assume that the individual, whether man or community, desires the good, *i.e.* what *seems* to him good: and there is no good for man except the seeming good. If, therefore, the sophist convinces the public that its customs are bad, we must suppose that it will try to change them.

The real history of the *homo mensura* I take to be this. It was enunciated by Protagoras not as an epistemological principle in the abstract but as embodying the fundamental assumptions of the new school of ethical thought. The words "man" and "all things" had a special polemical reference. That human reason is the ultimate judge of truth is a principle acted on by the scientific inquirers who have been working out a scheme of material reality, and the claim has not been seriously disputed in respect of Nature. But popular thought has hitherto refused to recognise the claim in regard to human institutions. Vaguely and unreflectively it has looked on laws and customs as of divine or semi-divine origin, and resisted attempts at scientific analysis and rational reform on this ground. Wrongly. For it must be recognised that in every sphere man is the ultimate judge. The dictum declares the right of free inquiry into all problems of conduct.

Taken in itself the dictum means man in general. But in the working out of his principle Protagoras, under the influence of the empirical, historical methods derived from the *φυσικοί*, gave to it an interpretation which implied that each man (and state) is his own judge. This interpretation is part and parcel of the *νόμος* theory of society. The laws and customs of a society determine for that society what is just and fair. But the law contains the experienced judgment of a society working out its own salvation on its own lines. The good of one society is not necessarily the good of another. The *free* community is in the last resort responsible for its ideas of what is best for it. Hence the community is the ultimate judge both of the end—its own good—and of the means—moral rules.

Now this doctrine implied a restriction of the validity of the moral judgment. The moral judgment does not *claim*

to be valid beyond the sphere of the social group which forms it; popular thought is merely mistaken in supposing that it does. In the next generation, when epistemological questions came to be discussed more on their own merits, and not merely as subsidiary to other problems, the work of Protagoras was found to contain the principle that every judgment is relative. Protagoras himself had had the moral judgment chiefly in mind, but had also illustrated his principle from the region of sense-perception. So the principle that to be is to seem to be became associated with his name. Plato's objection to the principle really is this, that Protagoras did not understand the nature of a judgment. When he treats *homo mensura* as equivalent to the identification of knowledge with sensation, and couples it with Heraclitism, he is in effect saying that if you approach the subject of knowledge from what is virtually the standpoint of physiological psychology and regard the arousing of a passing sensation by a physical stimulus as the typical fact of knowledge, you cannot but misunderstand the whole question. This is what Protagoras has done: instead of examining the judgment from the inside, he has merely transferred to it the characters of sensation: hence his failure to see that the judgment claims a universal validity. And so Plato dismisses Protagoras and the Heracliteans, *i.e.* the physical inquirers, and passes on to the consideration of the judgment (*Theat.*, 184 B ff.). That Protagoras had not specially examined the judgment and probably mistook its nature seems in accordance with what is known of the history of psychology and logic: (1) the early inquirers seem to have confined their psychological investigations to the physical conditions of sensation; (2) the examination of the judgment itself followed the growth of dialectic, chiefly in the Socratic schools, and the numerous *ἀπορίαι* to which it gave rise show that the analysis of the judgment presented great difficulties: indeed, it would seem that only the Academy succeeded in formulating any satisfactory account of it.

Let us now turn to the question whether the *Theætetus* contains any refutation of Protagoras, and whether there are any important discrepancies between the Defence and the rejoinder of Socrates. I do not attach the same importance as Mr. Schiller does to the rejoinder itself, because, as I have said, Plato's chief objections are to be found in the form of the dialogue as a whole. But a word of protest must be entered against Mr. Schiller's methods. An essential part of his case is this: the rejoinder shows that Plato has

misunderstood his opponent; he has treated the dictum as meaning the relativity of truth to the individual, whereas it really meant that utility validates the claim of the judgment to be true. What is the evidence? Mr. Schiller's interpretation is based entirely upon the short statement in the Defence, a statement *made by Plato himself*. There is not a word of independent evidence for it. The rejoinder of Socrates is directed entirely against the relativism of the dictum. But Mr. Schiller does not use the rejoinder to confirm his interpretation; he simply argues that the rejoinder is all wrong and irrelevant, because it does not agree with his interpretation, and then uses this supposed irrelevance to confirm his interpretation. But Mr. Schiller is not entitled to use a supposed discrepancy as independent confirmatory evidence, because there is no real discrepancy unless his interpretation of the Defence is correct. He must rest his case entirely on the Defence.¹

Now (1) he has no right to use the Defence as evidence entirely independent of the rejoinder, because even though we assume that it substantially reproduces the views of Protagoras, these are obviously stated in Plato's own words. Hence such criticisms as those on page 23 of his *Plato or Protagoras*? that Socrates illegitimately substitutes *ὕμεινά* and *συμφέροντα* for *χρηστά* are merely captious. Mr. Schiller is driven by the exigencies of polemic to treat the Defence as if it contained the *ipsissima verba* of Protagoras. The rejoinder must be used to confirm the reading of the Defence, and small variations of language cannot be pressed.

(2) Mr. Schiller's reading of the Defence emphasises the element of utility and makes the relativism quite secondary; hence the accusation of irrelevancy in the rejoinder. But another, and, I believe, a more correct reading makes the relativism primary. If Plato in his defence of Protagoras treated the element of utility as being secondary and ignored it in his reply, we have no right, in the absence of independent evidence, to regard it as primary.

(3) Mr. Schiller admits (*ibid.*, p. 17) that there is a difference between the views of Protagoras expounded in the Defence and modern Pragmatism, but treats it as merely a technical difference. Pragmatism teaches that every belief is as such true to the believer: this "formal claim" to truth is distinguished from the validity of the belief; validity is what

¹ Mr. Schiller really finds a dual personality in Plato: the writer of the Defence is intelligent enough to understand Protagoras, the writer of the rejoinder of Socrates is unable to do so. See his remarks at the foot of page 23 of his *Plato or Protagoras*?

ordinary people call truth'; for the pragmatist a valid belief is simply a belief that ought to be held: and the only justification for holding it is that it has value, in other words is useful. Hence "value" is a bridge connecting "truth," *i.e.* belief, and "validity," *i.e.* truth in the common use of the word. Now Protagoras draws a distinction between a belief and its value: so do we all: this is no discovery of the pragmatist. Does the Protagoras of the Defence state that its value gives to it another sort of truth, or validity? Not at all: he seems to distinguish truth and utility as conceptions with no point of mutual contact. He recognises no such distinction as that between the claim and the validity of a belief. The patient believes and ought to believe that he has feelings of bitter and unpleasant, they are guaranteed by his immediate experience. The other experience of sweetness is better but not in any sense truer: I am the sole judge of both. So in the example of the state and its moral beliefs. What is believed right and what ought to be believed right are identical. The *de facto* law is the law. Claim and validity are identified. If it is desirable to change our beliefs, it is because we form another belief—of which again we are the sole judges—concerning utility. If Mr. Schiller can regard this as merely a technical deviation from Pragmatism, it is because Pragmatism is content to claim Relativism as a brother. Mr. Schiller's own account of the formation of the temple of truth (*l.c.*, p. 17) is the purest relativism. I form a belief (claim): I see its value: therefore I hold that it ought to be believed (validity): I persuade others of its superior advantages: they adopt it and hold that it ought to be believed (objective validity): hence "the validity of a claim to truth is neither logically nor etymologically other than its strength". Put in the relation to the individual (*τινί*) which the ancients always supposed Protagoras to insist upon as qualifying both "claim" and "validity," and the Relativism is absolute.

(4) There is much resemblance between Relativism and Pragmatism for the very good reason that the latter is a development of the former, necessary, perhaps, to save Relativism from mere scepticism. An attack on the relativist basis of Pragmatism would be relevant, as against Pragmatism. And if the "pragmatism" of Protagoras was only an incident in his doctrine of relativity, then Plato's rejoinder would be very much to the point. Suppose that Protagoras argued for the relativity of truth, *i.e.*, what is believed is true, and denied any outside authority. Suppose that in answer to the question, "Do you draw any distinc-

tion between what is believed and what ought to be believed?" he said, "Yes. You ought to believe what is useful *to you, and you are the sole judge of what is useful.*" In that case Plato would be quite justified in neglecting the utility altogether—the pragmatism—as being quite subsidiary to the relativism. The rejoinder shows that this is how Plato interpreted the doctrine, and I have tried above to show how such a doctrine might arise, not "as a freak of irresponsible subjectivism" but as an expression of a well-authenticated tendency of thought in the fifth century. Mr. Schiller gives no explanation how the doctrine as he understands it arose, and can give no explanation of the confusion of which he accuses Plato except an intellectualist bias.

The rejoinder consists of two parts. The first (170 A-171 C) is the well-known *περιτροπή*, which seeks to prove that Protagoras must on his own principles deny the truth of his dictum. Mr. Schiller is indignant with Plato for criticising Protagoras without making use of the Defence (*l.c.*, p. 19). But the second part of the rejoinder does deal with the points raised in the Defence (171 D, E). The first part is a dialectical argument against the abstract principle that the individual is the only authority for his truth (170 A). I cannot see that Mr. Schiller is justified in saying that the argument involves a confusion between the claim of a judgment to be true and its actual validity (*Studies in Humanism*, pp. 145-146); Plato is arguing against a doctrine which he understands as identifying claim and validity. The remarks on page 20 of *Plato or Protagoras?* are so wide of the mark that they hardly require refutation. The argument is a dialectical one in which the *ἔνδοξον* of the *πολλοί* is set against the *θέσις* of a *σοφός*. In 170 A Socrates does *not* "insist on treating the difference between the authority and the fool as merely one in *knowledge*, despite the protest in 167 A". He is simply stating the popular *ἔνδοξον* which regards the difference of the wise man and the fool as meaning that the opinions of the one are true and those of the other false. His object is merely to establish the point that commonsense is opposed to the dictum. Throughout the argument he is careful to keep the Protagorean position as he understands it: he makes no appeal to any objective standards of truth: he merely assumes Protagoras holding one opinion and the rest of mankind holding the opposite. The argument turns on the application of another popular *ἔνδοξον*, which seems to be implied in all discussion, *viz.*, that one man has a right to challenge the truth of another's statement (172 D). According to popular

usage, the many have a right to call the Protagorean principle false, as conflicting with the first *ἐνδοξον*. Now Protagoras may do one of two things. He may either deny or allow the claim of one man to call another's judgment false: if he denies it, he identifies "claim" and "validity," if he allows it, he draws a distinction between them. In any case, he cannot consistently allow any other test of truth than the judgment of some man or men. But if he denies the claim, then he must admit that for the majority *their own* proposition is true that man is not the measure of all things; if he grants it, then he admits that *his* proposition that man is the measure of all things is false for the majority. But if no one believes it except himself, then, on the assumption that belief determines truth, it follows that the contradictory is true for (virtually) everybody. The argument is clearly directed against a doctrine which seemed to treat the claim of a judgment to truth and its actual truth or validity as equivalent. Mr. Schiller's Protagoras can escape by saying that his dictum is true even though he alone believes it, because a judgment is not validated merely by being believed: but Plato's Protagoras cannot escape thus, because belief and validity are the same, according to Plato's account of the dictum. Hence the relevance of the proof depends on our interpretation of the dictum. I think that Protagoras himself could have replied, not that his doctrine is misrepresented in the way Mr. Schiller makes out, but that he never held the doctrine of relativity in the extreme form which it here assumes. I suspect, indeed, that this extreme form of the principle, like the propositions of Jansenius condemned by the authorities, did not appear in the actual writings of the author to whom it was currently attributed. It is not to be found in the statement of the dictum itself. Generalised from some more qualified statement it probably became a catch-word of discussion. And Plato's own language seems to show that he was quite aware of this: the words of Socrates in 169 E show Plato's good faith: he has made Protagoras in his defence protest against captious dialectical criticism of an abstract principle: in 169 E he is merely saying that this is a dialectical argument directed against the abstract principle and requiring to be supplemented by an argument dealing with the matter of Protagoras' doctrine; this is done in the second part of the rejoinder. In 171 C the proof is said to be provisional, and it is stated that if Protagoras came to life he might declare it to be folly: in 179 B this proof is given a secondary position.

The second argument, then, is the one on which Plato relies (171 C-172 B, resumed 177 C-179 C). It examines the

material account of the dictum given in the Defence, and especially the relation between the true and the good there expounded. Mr. Schiller's accusation that Plato has ignored the matter of the Defence in his reply has not the least foundation in fact (*Plato or Protagoras?* p. 19). Like the first proof it is dialectical.¹ It starts from the popular *ἔνδοξον* that there is a difference between the wise and the ignorant, an assumption which is universal and accepted by Protagoras himself. But this immediately passes into the *ἔνδοξον* of certain *σοφοί* other than Protagoras, but whose general attitude is that of Protagoras himself. The method is that of setting the *ἔνδοξον* of one *σοφός* against the *θέσις* of another. The *σοφοί* to whom appeal is made are those who explain the world on the principles of empirical science (Heraclitism in the sense of 152 E, described as *τοὺς τὴν φερομένην οὐσίαν λέγοντας*, 177 C), and apply these principles to the explanation of human society. Their *ἔνδοξα* are set against that of Protagoras, with the object of showing that the *homo mensura* cannot be asserted in the unqualified manner in which it was advanced by Protagoras, because those inquirers who work out a theory of human society on this line do not really accept it unconditionally. *A fortiori*, it cannot be accepted by those who deny his premisses.

If we examine the views of these *σοφοί* we find that they accept part of the Protagorean doctrine, but reject another part. They agree that the patient is the sole judge for the nature of his feelings, the state the sole authority for the law. Here they are followed by many whose philosophic standpoint is quite different (172 B). But they do not really accept the Protagorean position that the superiority of the *σοφός* lies only in his power to change the opinions of the individual or the state. They admit an intrinsic difference between greater and less knowledge.

After stating this point Socrates goes off into the digression on the comparative values of the philosophic and the practical life, and on resuming (177 B) proceeds to carry out the implications of the *ἔνδοξον*. Protagoras had reduced the superiority of the wise to superiority in power. Socrates shows that this power rests on superiority in knowledge: and this difference in knowledge implies a difference between appearance and reality. The wise teacher is never regarded merely as one who can make his hearers adopt new opinions, but as one who can show them their *real* advantage. Here

¹ ἀλλ' ἡμῖν ἀνάγκη, οἶμαι, χρῆσθαι ἡμῖν αὐτοῖς, ὅποιοί τινές ἐσμεν, καὶ τὰ δοκοῦντα ἀεὶ ταῦτα λέγειν, 171 D. These words seem to imply that the views stated in the argument are those of contemporary science.

is implied a realism inconsistent with the unqualified relativism of the dictum. An enlightened commonsense, which has reflected on the investigations of science, will allow that man is the ultimate judge of reality (1) in the case of sensation, where the individual is the sole judge of his own immediate experience; (2) in case of moral laws, where the community is the measure, because it is the author, of the laws. But it will deny that man is the measure of the *good*, whether of the body or of the community, because commonsense is realist, and recognises the existence of independent conditions, over which man has not complete control. In the words of the *Cratylus*, men believe that "things have some permanent nature of their own; that they do not exist merely in relation to us, twisted hither and thither by us and our ideas, but independently maintaining the proper relation to their own nature". Or, as the *Republic* puts it (505 D), "Do we not see that many are willing to do or to have or to seem to be what is just and honourable without the reality; but no one is satisfied with the appearance of good—the reality is what they seek; in the case of the good, appearance is despised by every one". Hence Plato's answer to Protagoras may be expressed as follows: "first you deny any distinction between appearance and reality; then you resolve the difference between the wise man and the ignoramus into one of better and worse; but experience, as expressed in commonsense, shows that the distinction between the better and the worse implies a difference between appearance and reality; therefore in assuming that you can teach, you are assuming the fundamental principle that you deny".

On this argument we may remark (1) that it confirms the reading of the dictum as being primarily ethical in its scope; what Plato is specially attacking is the identification of the good and the apparent good. (2) There is no indication that Plato felt any difficulty in replying to Protagoras; the reply is clear and confident: "if you are going to substitute utility for truth as the goal of human effort, your success must depend on the degree of mastery you have over reality; once allow that reality is not entirely in your power, and utility is dependent on the degree of your knowledge". (3) It is quite clear that for Plato subjectivism was the essence of the Protagorean doctrine, and was to be met by some form of realism. His argument is directed throughout against a view which seems to him to make man the complete *magister naturæ*. As against the doctrine that man has no *interpretatur naturæ* except himself, the argument has, of course, no force.¹

¹ So far I agree with Mr. Schiller and Prof. Burnet that Plato has not answered Protagoras.

Whatever may be said of the cogency of the reasoning, it is intelligible, relevant, and shows no discrepancies with the account of the *homo mensura* in the Defence. Mr. Schiller's criticisms are vitiated by his inability to recognise the dialectical character of the argument. Thus he objects to Socrates making a distinction of which nothing was said in the Defence: "a division of territory whereby the sphere of perception would be left to the dictum, while that of good and evil, and of health and disease would be assigned to the control of authority" (p. 22). Socrates *establishes* this point *against* Protagoras dialectically; Plato understands Protagoras to deny any difference of authority for the sensation and the good. I cannot understand the remarks on page 23. Socrates says nothing about "allowing states to judge as they please about the just and the moral". What he does say is that educated opinion goes with Protagoras in regarding the just (the *many* "justs") and the moral as being determined by the *νόμοι* of the state. *Actual* morality is widely treated as *νόμος* by people who insist that the good is *φύσει*.

We must bear in mind, in this connexion, the prominence of the conception of causation in all the ethical thought of the Greeks. All action is regarded as means to the realisation of some end or ends which have value in themselves. Conduct so far as rational involves two distinct judgments, (1) that a certain possible end has value, (2) that this act will cause the realisation of the end. Hence it is assumed that in acting you do what appears to you likely to promote your advantage. But error is possible; what seems to you advantageous may not be advantageous. If you act upon your judgment of what seems likely to be profitable, your judgment is infallible only on the impossible condition that you are the cause not only of your own act but of all its circumstances as well. And this is just what Plato seems to be contending for. He shows that if you allow the common view that there is an independent reality conditioning human activity, man cannot be regarded as the sole arbiter of his destiny. So far as the Protagorean principle that man is the measure meant that in dealing with the problems of life we must ultimately rely on our judgments concerning things, this is obviously no answer. But if it is interpreted in an anti-scientific sense; if it is brought into opposition to the feeling which inspires the scientific investigator, the feeling that reality contains a vast unexplored region, then one of the chief motives to research will be removed, and the principle becomes thoroughly pernicious. Men can only become masters of Nature by recognising that the mastery implies a process requiring every effort of which they are

capable. If, again, it is interpreted in an anti-moral sense ; if it comes to mean that man may do what he pleases, that his welfare depends on the satisfaction of the desires he himself forms and not also on the human nature which he inherits, it may easily lead to Calliclean developments. It is against such applications of the dictum that Plato is arguing here.

To sum up. The leading idea of Protagoras was relativity, subjectivity, as it was always supposed to be in antiquity. The *homo mensura* was first enunciated with a specific ethical purpose. In its general statement it meant man in general, but in the working out, owing to Protagoras' empirical, developmental treatment of the social question, it came also to mean the individual, community in one context, man in another. In this working out Protagoras taught that the moral judgment is valid only for the community interested, and claims no further validity, illustrating his point from the phenomena of sensation. From this was extracted a catch-phrase like the Universal Flux, "appearance is reality," which was treated as the essence of the Protagorean doctrine. This abstract principle was made game of by some among the dialecticians, whom Plato cites in *Theætetus*, 161 C ff., and rebukes in the Defence in the person of Protagoras, adding what he regards as the real meaning of the dictum. He himself supplies three answers. (1) In the first part of the rejoinder he gives a *dialectical* refutation of the abstract principle that every judgment is true (validity) because it is true (claim) to the maker. (2) In the second part he attacks the *moral* application: granting (provisionally) the arbitrary nature of actual moral codes he denies that the Good is arbitrary on the ground that welfare depends on objective conditions. (3) But his main objection is to be found in his treatment of the *homo mensura* as a doctrine which makes knowledge and sensation equivalent terms: the *psychology* of Protagoras is at fault: he has failed to see the fundamental difference between the claims of the sensation and the judgment to objective validity: if he had seen the difference he could not have drawn so close a parallel between sensation and the moral judgment.

I conclude that there is no justification whatever for the view that Protagoras taught that truth is a "value" or any similar Pragmatist doctrine, and that we must not read any epistemological meaning into the idea of ability as it appears in Plato's account of the dictum, its presence being due to the predominance of the ethical and social interests in the theory of Protagoras.

III.—DIFFERENCE AS ULTIMATE AND DIMENSIONAL.¹

BY ARCHIBALD A. BOWMAN.

THE subject of this paper is in the first instance the judgment "S is not P". By this is meant something more than the negative judgment as known to logic. I wish to indicate the direct assertion of a difference, and I contend that such an assertion is in its nature *sui generis* and denotes a unique character in the act of thinking, upon which formal logic at least bases no fundamental division. The logical value of affirmation and negation is identical, and in the general conception of predication as equally involving unity and difference it is a matter of relatively small importance whether we consider the proposition as asserting the synthesis of a manifold or discriminating elements within some universe of discourse. In each case we make explicit an aspect in predication which is complementary to an aspect assumed to start with, and we end with the two aspects on one level of assertion. Thus, if I affirm that all apple-trees are *rosaceæ*, I take two terms denoting objects which to my first unscientific apprehension have little enough in common and find that in spite of this appearance of difference they are largely coincident. If I deny that coltsfoot is dandelion, I emphasise a difference where community is already strikingly apparent. Logic is concerned only that these two aspects be present. With the manner of their conjunction or their relative strength of assertion it has nothing to do. For these depend on specific characters which lie beyond the general symbolic content of logical terms as such. I use the words "general symbolic content" on purpose. For I believe on the one hand that every term, even the most universal symbol, has a content, but that on the other the content of a term from a purely logical point of view is comprised in its function of unity and difference as an integral element in predication and in syllogism. The content of the logical symbol is thus the general notion of unity in difference. S means that

¹ A paper read to the Scots Philosophical Club, 21st May, 1910.

which can be at once distinguished from and united with P. It is in the symbolic generality of these notions that we find the source of the logical indifference to quality. P may stand for a rigorously defined conception or, it may be, for the almost undefined not-Y. In the infinite proposition the very distinction of affirmation and negation all but disappears; for although we find the one obverse more suitable in special connexions than the other, we regard the two forms, affirmative and negative, without reservation¹ as identical in value.

Clearly then there would be little force in a separate examination of the negative judgment as conceived by formal logic. But my contention is that behind the logical indifference to quality there is a vital distinction of kind between the affirmative and the negative judgment—a distinction which renders them no longer interchangeable. Each has its peculiar character and value, and when this is taken into account there is no process of obversion which will translate the one into the other. We are here dealing not merely with symbolic forms of unity and difference, each of which is continually collapsing into its opposite, but with facts as hard as any that experience contains and with elements as refractory as a critical epistemology could possibly encounter. For this reason it is advisable to seek a terminology which will make clear the difference between the logical proposition as such and the judgment we are now considering. The form "S is other than P" or "S is different from P" will serve our purpose, and for convenience we may designate this, as distinct from the logical negative judgment, a judgment of difference. The corresponding absolute affirmation would be "S is at one with P".

Of course like every other significant judgment the absolute negative falls within the sphere of logic and contains all the general features and consequently that qualitative indifference which logic discovers in any judgment whatsoever. But there is a fundamental sense in which we may maintain that these characters do not exhaust or exactly define it,—a sense in which, however expressed, it remains a *negation of the soul*. Doubtless it implies an affirmation: doubtless from an abstract point of view its form may be regarded as affirmative, and those

¹ More strictly, with the one reservation that in any argument the negative be attached to the copula or the predicate in such a way as to avert ambiguity in the terms. This again points to the definite value of a general symbolic content as determined by the demands of consistency—which is just another way of saying, "its function of unity and difference as an integral element in predication and in syllogism".

who consider that such implication, such dialectic pliability, at once stamps an expression of thought as partial and incomplete need take no offence at this attempt to indicate a final and genuine difference of kind. For the difference lies deeper than the expression. The point to emphasise is that between the judgments "S is different from P" and "S is at one with P" there is a fundamental distinction—a distinction of aspect if you will, but a distinction which is as real as any distinction can possibly be. I intend to go the length of saying that the distinction is irresolvable—at least in this sense (and the apparent truism will have to be made good) that the judgment "S is other than P" is for ever incapable of becoming the judgment "S is at one with P". Thus if differences are sublated (as I believe they are) they can never be sublated by ceasing to be different. Indeed the act of sublation, if it has any effect at all upon the distinguished elements, will have the effect only of more deeply establishing the differences by setting them definitely upon their common ground.

A few illustrations will serve to render at least somewhat more clear these bald and unproved assertions. The judgment "S is one more than P" would be classed by logic among affirmative judgments. It asserts an identity between the contents "S" and "one more than P". But if we consider the terms of the judgment not as "S" and "one more than P" but as "S" and "P" (and logic at least can have no objection to our bringing together any two terms in a judgment of some sort—a negative judgment for example) then we find ourselves unable to express their relationship except as a difference. We can say indefinitely "S is not P," or more definitely "S differs from P in respect of the quantity X"; but in no sense can the terms S and P as such be applied to each other in the same direct way in which the terms "S" and "one more than P" are mutually referred. Without any attempt at a definition (which for reasons yet to be made plain I regard as impracticable) we may take as fundamentally significant of the judgment of difference or genuine negation that, given the terms S and P, we cannot relate them directly in the judgment "S is P" but must modify either the copula or the predicate and say "S is not P" or "S is greater than P". Whether we adopt the logically affirmative or the logically negative form is indifferent. In each case what we have is the judgment of difference or genuine negation. I should say further, that it is a matter of indifference whether or not we are able exactly to designate the point of difference or respect in which two terms

differ. We are able in experience to detect differences without being able so to designate them, and the fact that we are in some cases able to make the respect of difference perfectly definite does not render a negation as such less genuine.

The fragment of a melody which I have heard, let us suppose, is struggling to reinstate some missing notes in my mind. I take up various combinations suggested by a certain adaptation to the general scheme of the piece or by a feeling of continuity. The mere perception of these combinations compels me instantly to reject them. They are different from the notes which I am seeking. If "S" stands for one of the rejected combinations and "P" for the missing notes, then my judgment is "S is not P" or "S is different from P". Now what I am trying to maintain is that while logic can find an affirmative and a negative expression for this judgment, the judgment itself belongs to one and one alone of two mutually irreducible types which I have ventured to distinguish in the symbolic judgments "S is different from P" and "S is at one with P". The judgment we are considering is the judgment "S is different from P," and probably it implies another judgment of the type "S is at one with P". *I.e.*, the rejection of an unsuccessful combination of notes carries with it the implicit assertion that some other combination (as yet undiscovered) is the one I am in search for. My particular point is that these two assertions, mutually implicated as they are, are in no sense one judgment, and that the implicit affirmation does not entitle us, except as a matter of bare expression, to transfer the affirmative character to the judgment "S is other than P". I do not wish to insist upon the fact that the implicit affirmation is as yet a mere unknown potentiality, while the negative judgment is the clearly formulated content of a present experience; for I do not think the point involved in my contention. But it is not without its significance that I can actually have the experience of being forced to negate two ideas of each other without being able to fill in the content of the corresponding affirmation. The fact might be interpreted in one or other of two ways. It might be turned against my contention. For it could be plausibly argued that if I have a negative judgment which implies an *undecided* affirmation, I cannot speak of the negative judgment as *distinct from* the affirmation which it implies. The affirmation is therefore merely a character in the negation; *i.e.* the negation is not genuine or complete. Or, to vary the form of the argument, the rejection of S as failing to meet the ideal demands of P is identically the same thing as the assertion that some other

combination, "X," as yet problematical, does meet these demands. To this I would answer: (1) that the judgment "X is P" does not convey to my mind exactly the same meaning as the judgment "S is not P"; (2) that the fact that a perfectly definite negation implies a perfectly indefinite affirmation does not seem to me to mean that the negation as such is in any sense affirmative; and (3) that if we do admit that "X is P" and "S is other than P" are identical contents, since X is in itself unknown, the only meaning we can as yet give it is "other than S"; and the judgment becomes "Something other than S is P," or "P is other than S"—which is once more the pure negation of the judgment of difference. The conclusion is that an undefined implicit affirmation is impotent to modify the negativity of a definite denial.

The illustration I have used makes one thing at least clear. To be able to deny that "S is P" does not mean to the subject the same thing as to be able to assert that "X is P," because he may be able to deny the one without being able in any significant sense to affirm the other. Doubtless he is not content with a negation to which he cannot furnish the corresponding affirmative. He feels that the negation itself is not a completely satisfying content. It is not as definite a negation as he wants. But a more perfect negation does not mean a negation with a definite admixture of affirmation in it but only a negation which is capable of greater precision. And the effect of rendering it precise (an effect which may certainly be brought about by making the implied affirmative explicit) is not to touch its negativity with affirmation but to authenticate the negation itself. Suppose in our illustration I do succeed at length in hitting the desired combination of notes and recognising it as such. At once "X" becomes a definite content and the affirmation implied in the judgment of difference is made explicit. But this only confirms our rejection of "S," as a combination of notes other than that of which we were in search. Previously we could declare "S is other than P" only because S failed to give us that continuity of impression which we hoped to recognise as identical with the continuity of our former impressions. But now we are enabled to maintain that "S is other than P" because we have discovered X which is identical with P to have certain quite specific differences from S. We therefore not only know the bare fact that S and P are different; we can exactly specify the nature of the difference.

But the development of the illustration has brought with

it several important consequences, some of which seem to threaten the argument throughout. *E.g.* it will be objected that if we can not only deny that S is P but can specify the exact respect in which it is not P, then the judgment is not purely negative but contains a very emphatic affirmative element. Suppose that S differs from or is not P in respect of ς (say that 4 differs from 3 in respect of one unit of increment), then this one unit of increment is a genuine affirmation in the judgment "S is not P". And suppose further that Σ differs from P in respect of Π (or 5 differs from 3 in respect of two additional units), then, if we persist in asserting the purely negative nature of the judgment of difference, we shall be forced to conclude that from two negatives a genuine inference can be drawn; for we can infer that Σ is more than ς . Again, on the very face of it it appears that no judgment can be purely negative, for the terms which it contains are more or less definite and are therefore names for realities of some sort—are in fact themselves, so to speak, curtailed or implicit affirmations. A judgment which is pure negation would therefore necessarily be the attribution of the predicate "nothing" to the subject "nothing"; *i.e.* it would be no judgment at all. And still further the negative judgment "S is not P" may be very slightly negative and yet the judgment may have a very large and rich meaning due to the full connotation of the terms. The difference between S and P which we actually predicate may be minimal and the points of congruity may be relatively immense. To revert to our illustration, S may differ from P only by a single note or by a single transposition; and P may be a sonata of Beethoven and S a rendering perfect in spirit and in technique save for one note wrongly struck or timed. In such a case (which I do not mean to suggest is possible or even conceivable) it would be the limit of pedantry to ask whether what had been played was really the sonata in question; to deny it might almost seem paradox. The terms contain so large an element of identity that the judgment of difference has become practically untrue, and to assert it in the categorical and exclusive sense of a pure negation is to outrage meaning. If the minutest differences are to be made the basis of such an absolute exclusion, nay, unless the very greatest divergencies are in certain cases to be allowed freely to override negation of this sort, the law of identity itself will disappear in a universal nihilism. The Moonlight Sonata has perhaps never been executed or even thought of exactly as it was at first conceived by the Master. Is there therefore no unique and abiding Moonlight Sonata?

And in spite of the great and intrinsic variations need we refuse to identify the features of the voluptuous Fornarina as she appears in Giulio Romano's portrait with the chaste and impressive Donna Velata and perhaps the archetypal Madonna di San Sisto? These questions lead too abruptly into the heart of our subject and we must not multiply them further at present. It will be enough if I entrench my position against their more immediate implications, and this will serve the purpose of making my contention still clearer.

In maintaining the absolute nature of negation or the judgment of difference, I did not mean to assert that, in order to meet this demand, the terms of such a judgment must themselves be devoid of any common element or of any positive character. These terms may be composite and may have very much in common, or they may be organically related. They must certainly have a positive character of some sort. But what is *asserted* in the judgment of difference is *not* their common features nor their affirmative nature. Again, I frankly admitted that every negation carries with it its affirmative implication, but I still maintain that this implication or these implications (for it must be noticed that they may be many) are not *asserted* in the judgment of difference. To declare that the only absolutely negative judgment would be the judgment "Nothing is nothing" is to miss the point. What I am contending for is not that the terms of a pure negation must be infinitely exclusive, but the much simpler proposition that negation is an absolute character in the relationship of terms—a relationship which may have many other and affirmative characters; and when I speak of the absolute character of negation what I mean is that negation is not in itself affirmation, and whatever may be its affirmative implications, is impotent of itself to render them up. Of course a truth is frequently, perhaps always and essentially, revealed in its affirmative and negative aspects in a single act of thought; and these two in all cases immensely reinforce each other.

But we have seen that it is possible to formulate a fairly clear and emphatic negation without knowing on what affirmation exactly it is based. And we may now supplement this truth and say that if indeed we can hardly conceive an affirmation without knowing certain implied negations we can hardly ever know the full extent of the negations involved. What we do know depends largely on the accidents of our knowledge, on our experience and our critical discernment. It is far from my intention to convert a definitive difference into the negation which is mere nothing-

ness, and I consider that Plato takes a fundamental step in the right direction when in the *Sophist* he transforms the $\mu\eta\ \delta\upsilon$ into a definite character within the real. In fact my whole argument is that the negative must be preserved as a distinct and irreducible feature of reality. As regards the preposterous illustration which I have tried to turn against myself, I hardly think it can maintain even its own pretensions. If a Beethoven Sonata played to perfection save for one flaw is not a monster in nature, still it is doubtful how far, in view of the one defect, it could be regarded as even otherwise perfect. The "dram of eale" has much more extensively damaging properties where the "noble substance" bears "the stamp of one defect" than where the "noble substance" is altogether wanting; and we can well believe that the achievement which falls just short of perfection, which misses the ideal by a hairsbreadth, may take much deeper damnation in the judgment of the artist and of the artist's master (in the judgment, that is, of those most competent to judge, because those who have the standard most definitely before them) than the attainment that never aspired to genuine ideals at all. Perhaps therefore the difference that divides the perfect from the just-not-perfect is not a small difference but a great—no less in fact than the difference that divides everything from nothing.

A further obvious but important criticism might be offered. It might be said that my answer to the objections supposed rests upon a false distinction of terms themselves and their assertion in judgment. While admitting *e.g.* that terms generally speaking have a certain positive character, that they represent something which is rather than is not, and further that mutually exclusive terms may represent objects having much in common, I go on to maintain that what is actually *predicated* in the judgment of difference is *not* what the terms have in common, and that therefore the terms and their predication in such cases are two distinct things. Of course I am not unaware of the serious difficulties resulting from any attempt to distinguish between the terms of a proposition and its assertion; but I believe that such objections as the present are frequently employed by an obscurantist idealism in such a way as to take unfair advantage of their inherent generality. It may be quite true that terms cannot be separated from their assertion in judgments and that the floating idea is a chimæra, and if my argument really rests upon such psychical and logical impossibilities I am prepared to renounce it. But first of all I wish to ask quite definitely what is meant. Here is a judgment "S (=

abcdefg) is not $P (= abcxefg)$ ". By *S* I understand *abcdefg* and by *P* *abcxefg*; and what I mean is no doubt that in some sense I *judge* or *assert* *S* to be the combination *abcdefg* and *P* to be the combination *abcxefg*; and I do not for an instant imply that in judging *S* to be other than *P* I am not at the same time *in some sense* judging *S* and *P* to be very largely identical. This, however, does not seem to alter the fact that the judgment "*S* is not *P*" is not *as such* identical with the judgment that *S* in very many and possibly fundamental respects is the same as *P*. If it is true that I am really judging both, I am not judging both in exactly the same sense; and in the sense in which I am judging the one I may not be judging the other at all. At the very least there is a "both" in the case. Now suppose it is being judged that *S* is not *P* in respect of the difference between '*d*' and '*x*'. We may grant the uttermost demand of our supposed critics and concede that in the judging that *S* is not *P* in this specific respect, we are at the same time and of necessity, nay in the identical act of thought, judging that *S* and *P* are one in respect of the common elements *abcefg*. Perhaps it will not be demanded that we should consider this latter judgment as definitely before our minds. We may for example be allowed to consider the terms *S* and *P* which mean so and so for us or are *judged* to be equivalent to so and so, as generally grasped rather as a universal symbol for these and many other specific judgments, which can be unfolded by a process of analysis, than in the form of the actual definite judgments themselves. But waiving even this very moderate claim for abatement we will suppose that in the article of judging that *S* is not *P* in some respects I must invariably be consciously and clearly judging that *S* is *P* in certain other respects. Now granting all this, which is surely the limit of what can be asked, I fail to see that the judgment "*S* is not *P*" is the judgment "*S* is *P*". The two assertions, it seems to me, even granting their insoluble implications, are still distinct and different assertions, and the judgment "*S* is not *P*" *does not assert* that "*S* is *P*". The upshot of the matter is this: either the judgments are completely identical (which they cannot possibly be, and which no one would maintain that they are), or else they contain a certain difference, and this is my whole contention. Something is asserted in the judgment "*S* is not *P*" which is not and cannot be asserted in the judgment "*S* is *P*". It requires no great act of intellectual renunciation to concede further that the difference between the two judgments is that the one does not assert community while the other does.

The matter can hardly end here however. I shall be accused of employing a false mechanical symbolism and so misrepresenting the nature of the great mass of judgments. $S = abcdefg$ and $P = abcxefg$ are not true formulæ for terms in general. For in the first place *abc* etc. may not be definitely distinguishable units but organic features inseparable except by an act of abstraction. And further the mode of representing the affirmative and true negative judgment as an equation of common and identical elements and a mutual negation of disparates is fundamentally false. What we get is in the one case a judgment of pure identity and in the other a judgment of pure difference. In neither case do we find that unity in difference which is the elemental character of judgment.

In reply to this I must confess the limits of my symbolism. To represent P as equal to *abc* etc. certainly has a mechanical look. I do not mean by these symbols (I do not think that my argument demands that I should mean by them) atomic particulars. They are at the most distinguishable features and may certainly be organic. All I insist upon is that they *are* distinguishable. My argument is in no way affected by this. In fact it demands some such development. For what I mean by the judgments " S is P " and " S is not P " is not the absolute equation of the identical elements and the total mutual exclusion of the disparates. The *terms* of the proposition are not *a, b, c, . . .* etc. but S and P ; and when I say that " S is not P " or " S differs from P " I really mean to make an assertion about S as a whole and not about *a, b, c, etc.* Of course the assertion I make is in its nature necessarily abstract, for judgment is always essentially abstraction; and it is ultimately this truth in Kant's mind that prevents the Categories, based as they are upon types of judgment, expanding into noumenal principles. The assertion that I make is that S differs from P ; and my point is that in this instance I assert no more. I do not assert anything about what S and P do or may have in common. My statement is confined to difference. But this is not equivalent to saying that S and P *only* differ or differ in every respect. That would be quite a different assertion—one which I may or not be able to make. The distinction must be kept clear between *only asserting* difference and asserting that the relation between two terms is *only one of difference*. And the fact that it is possible for me to make an assertion which is only a statement of difference, without at the same time asserting that the terms in question *only differ*, seems to me to indicate the exact sense in which we can and must assert that difference is absolute.

Having prepared the way by brushing aside certain possible misapprehensions, I must now proceed to develop my conception of the nature of difference. To begin with, I accept without present question a proposition which may seem at first sight to imperil my whole position—the proposition *viz.* that difference is a matter of degree. The sense in which I understand this must of course be carefully defined. That X differs from Z more than it does from Y is a proposition with a very real meaning; and whether or not we are able to say what that meaning is we are at least usually able in experience to apprehend a difference of degree. If X is a shade of green and Y the same green one perceptible degree more saturated, Z will represent the next observable degree of saturation. A series of this nature we at once recognise as having its actual existence for us, as well as many analogies, within experience. And we are able to *understand* it in this sense—*i.e.* by referring it to a character in a content with which experience has familiarised us. Apart from the possibility of such a reference it is certain that no mere conceptual process could enable us to grasp the nature of series or gradation or degree. This proposition wants no experimental demonstration. The proof of it lies in the impossibility of defining these ideas without presupposing them. The question of definition is a very wide and difficult one, and whether or not it is possible to define anything without this circular process is a point that might be debated. But this much will be granted. There are elements within experience, ideas and objects, which can be defined by being placed in a context or inclusive system, and therefore without at least any immediate reference back to themselves; and there are characters within experience which the very attempt to formulate them presupposes straight away. We cannot refer them to anything else and every endeavour to do so ends in a circle which is genuinely vicious. Not that these characters are totally incapable of definition. They are everywhere being defined within experience but not by reference to anything further than their own content. The significance of such necessarily circular definitions and the interpretation we must put upon them are clear. Wherever they are forced upon us we may be sure that we have come upon some fundamental and irreducible character of experience; and we are compelled, as the only alternative to a suicidal empiricism, to accept Kant's transcendental arrangement and bring the indefinables under some such rubric as his Axioms and Anticipations, Analogies and Postulates. Now, that degree is such a fundamental

character I am compelled to suppose, if for no other reason than the impossibility of evading the circular statement. Perhaps we could not establish this more strikingly than by quoting the argument of a recent writer who not only attempts to escape the inevitable circle, but thinks he has succeeded. But before doing so I wish to point out that I am using the term degree in the very widest sense and not merely of qualitative intensity. Thus degree as I apply the word would include all variations in *extensive* magnitude as well—all that falls within the Kantian Axioms of Intuition as well as the Anticipations of Perception. In fact wherever we can arrange a series so that members approach to and recede from each other on any principle of arrangement whatsoever we have what I mean by degree.

In his treatise *Über die Bedeutung des Weber'schen Gesetzes*, which he describes as a "Supplement to the Psychology of Comparison and Measurement," Meinong takes up the conception of quantity and tries to define it without presupposing it in the terms of his definition. Provisionally he declares it to be characteristic of all magnitudes to set a limit over against Naught—"gegen Null zu limitieren"—and he continues: "The one vulnerable point in this is the question whether the nature of magnitude is not here defined by reference to change of magnitude, thus involving a *circulus in definiendo*. For what does the setting of a limit over against Naught mean if not a drawing near to the same, and what else can? Nearer and Further be but smaller and greater distance. In order to characterise Magnitude in general, Naught would thus be claimed as a special instance of Magnitude, so that the roundabout way by Naught appears to lead only to an *idem per idem*. . . .

"Above all we may assert the following with complete justice of the word Naught. Naught is, strictly speaking, in reality already something which no one could grasp who wants the apprehension of Magnitude. Naught in fact is the negation of Magnitude. Instead therefore of saying: 'Magnitude is or has what is capable of setting a limit over against Naught,' let us rather lay down the proposition: 'Magnitude is or has that which permits us to interpolate members between itself and its contradictory opposite'. Only the reference to interpolation now demands a clear definition. The nearest way is to think of resemblance. Let x be the given magnitude. The definition just given means: x will be entitled to the designation great or greatness if between x and non- x something can be inserted which will be both liker x and non- x and less different from x and non- x than x and non- x from

each other. But once again we here revert to a *More* and *Less* (resemblance or difference as the case may be)—hence to Magnitude. This can be avoided by calling to aid the idea of Direction, which, as is evident without more ado, may in truth lay claim to a much, nay an incomparably wider sphere of application than language acknowledges in the word Direction so rarely employed beyond its spatial use. Let a y be granted which as viewed from x falls in the same direction as non- x , then x is or has Magnitude and non- x is Naught; and I can now in this characterisation find not the remotest appearance of a vicious circle.”¹

The answer to this is that in his extended use of the term Direction, Meinong is either using language which has no relevant application to magnitude at all, or else, if Direction does contain a specific reference to magnitude, then it assumes the thing which it is supposed to define. He does not really escape the assumption of the non- x , which, as he points out, in itself involves the assumption of magnitude. I have enlarged on this somewhat obvious conclusion as regards the nature of degree because my theory is bound up and stands or falls with the question of difference as a matter of degree and the peculiar interpretation given to this question. From one point of view, for example, the very concession that difference admits of degree would seem fatal to my designation of the judgment of difference as absolute. If all difference is a matter of degree then it is surely obvious that any assertion of difference must be relative. The objection looks formidable; but it has really been already denuded of all force. It is true that differences (and degrees of difference) are related to one another, and without such relation they could not be conceived. But when we ask what is the nature of such a relation we find ourselves unable to reach a point of reference outside the circle of the thing defined. Thus it is hopeless to look for any immediate solution of the *ultimate* nature of difference to its character as admitting of degree. We shall get no light on the question what finally and most generally a difference is by asking what constitutes a thing more or less of a difference, any more than we could hope to explicate the nature of space by asking what it was that constituted a thing spatially greater or less. The fact is that more and less, with the whole conception of degree, falls within the idea of difference, as an ultimate form of difference; and it is therefore quite impossible to turn these notions critically upon the idea which includes them. In

¹ Pp. 6-8: “Sonder-Abdruck” aus *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*. Bd. xi.

other words a degree is itself a difference, and, although it may be of infinite use in experience, we cannot employ it as a criterion, because difference is the prior assumption. It would be neither a tautology nor a meaningless epigram but would contain an important truth if we asserted that *degree* of difference is intelligible only as *difference* of degree.

I have just described degree as an "ultimate form" of difference, and the words were chosen with a special intention. For the assertion that the whole conception of degree falls within the idea of difference might seem to conflict with my other assertion that degree is a fundamental and irreducible character in reality. I do not think my words contain this contradiction. For I do not mean that a degree is in any way *defined* or that it gains anything in content by falling within the conception of difference, any more than difference is defined by being characterised as expressible in degree. We cannot think degree without thinking difference; but this of itself is the proof that in thinking degree we are thinking something ultimate. For if it were not so, if degree were really reducible to difference in a sense which would deprive it of its ultimate character, we should be able to dismember the idea and find a prior idea of degree subsumed under the wider conception difference, and so enlarged and specified. What we are unable to dismember we must regard as ultimate.

Now whether or not degree is a conception adequate to the whole nature of difference, it is the only conception which seems to promise a general statement. In difference regarded as qualitative the subject shrinks from general treatment and throws us back persistently upon definite experience. Where quality is concerned we cannot in the ordinary course of things hope for even such a scheme of difference as will enable us to say "S is different from P in respect of A," but must content ourselves with the tautology, "S is different from P in respect of the apprehended difference between P and S". The aspect of degree on the other hand has opened up prospects of further advance and the possibility that indirectly light may be thrown on the obscurities of qualitative distinction itself. Thus, for example, it is evident that certain differences of degree are at the same time and *ipso facto* qualitative differences. In order to make this clear with the help of illustrations let me repeat in substance what I understand by degree. Wherever we find a systematic arrangement of facts or ideas such that X, Y and Z approximate uniformly to each other along the lines peculiar to the system, we have what I mean. The term degree however

does not seem specially suitable to such a conception. It is usually appropriated to the particular type of approximation found in a system of which the characteristic mode is intensity, and my meaning includes much more than this. It includes for example the time series and space, the moral universe and all forms of approximation to ideals. I propose therefore to substitute for the word degree a word the customary connotation of which has reference to the space and time series, but which I think might be very profitably extended, the word Dimension; and just as an object, spatially considered, may be regarded as a meeting place and special articulation of three dimensions so the object in its concrete fullness may be regarded as the meeting place of many more. It has its own position for example in a definitely graded universe of colour, of utility, of beauty and of truth.

Defining the word dimension in the terms just applied to degree, I find the following to be its fundamental characteristics. A dimension is a perfectly unique mode in which some specific function (whether of consciousness or of the object of consciousness) keeps developing itself according to a uniform principle. Thus if we could take a section of anything regarded from the standpoint of its dimensional nature, we should find its *characteristic* identical with that of any other section in the same dimension. In the general scheme of its arrangement one portion of space or time is identical with another. In every dimension there will be a single way of advance leading in one direction to uniform accretion and in the other to uniform diminution. Of course I speak of the accretion and diminution as uniform only in the sense indicated by the peculiar nature of the dimensional principle. Thus the absolute quantity of increment need not be uniform. I would regard a series advancing in any fixed ratio as dimensional. It is characteristic of a dimension that no limit can be set to it either in the outward or the inward direction. It is thus in its nature absolutely continuous. At the same time if we arrest it in any particular of its infinite extension what we shall strike upon will be and must be something discrete and definite. There is doubtless something paradoxical in this and the same paradox appears in the very idea of accounting for difference by referring it to a function which we have described as uniform. It is not my intention to attempt any ultimate solution. Enough for the present that a distinction must be drawn between a dimension itself and its content. How this is possible or what use there is in the conception of dimension if it must be kept detached from the actual differences which it con-

tains is a question which need not trouble us when we consider the actual fruitfulness of the dimensional idea in the spatial universe. Space we experience only in the form of defined spaces, yet we can conceive it only as continuous dimension. In this sense we can distinguish a dimension and its content. The one is for ever schematic and general, the other specific and individual. The attempt to understand an object leads us to a dimension: if we wish to realise dimension in actual experience we are inevitably brought up against discrete particulars.

I know that the distinction between a thing and its content exposes me at once to objections, but I do not think that the most convinced Hegelian could object to my insisting on the difference between continuity and discreteness, provided I admit (as I do) the reality and at the same time the mutual implication of the two. Every particular within a dimensional system is fundamentally discrete; at the same time it is intrinsically a member in a fundamentally continuous dimension. How this can be is not our present problem; but the difficulty is interesting as being probably identical with that which lies at the bottom of the divergencies in Kant's statement of the nature of space. These differences are not to be explained on any merely extrinsic grounds. The truth is, it seems to me, that Kant never really recedes from his earlier position. In the "Analytic" he transforms his first statement by substituting the notion of space as synthesised for that of space as given; but the determinate space which is the product of synthesis differs from that infinite transcendental whole which we must still in any case presuppose. The one conception cannot therefore stand as the exact substitute of the other, and a complete statement of Kant's position as well as of the nature of space would seem to demand both.

The distinction of continuous and discrete suggests the still more general distinction which has been already pointed to in what was said of degree. No dimension is reducible to any collocation or aggregation of its own content regarded as prior. It is not a product but a presupposition—always in the form of some regulative principle furnishing the condition either of positive experience (*e.g.* space and time) or of some ideal process (*e.g.* morality).

Most interesting of all perhaps from the point of view of our problem is the fact that all our sense experiences with their inexplicable qualitative differences fall within a dimensional universe. Of course I am not thinking of their physical concomitants, and in fact I am not applying quantitative

conceptions to sensation at all. Whether quantitative conceptions are applicable in any sense but that of analogy is a serious problem. Certainly this seems clear: a difference of intensity is not completely explained as a difference of quantity. It is not merely, it seems to me, in the upper limits of intensity that further stimulation will result in distinct qualitative change. The change is qualitative throughout, and the current method of regarding intensity merely as a matter of quantity brings insuperable difficulties. The general criticism of Fechner's law that it presupposes an impossible unit of sensation seems to involve much more than Fechner's law, *viz.*, the whole conception of quantity in this connexion. Indeed if we accept this conception we must go the whole length with Fechner; for wherever we have quantity we must be able to assume an invariable, even if arbitrary unit. Thus Fechner was not merely attempting to add definiteness to Weber's statement: he was bringing out a genuine unacknowledged presupposition of the quantitative view. Of course the difficulty of stating the truth in Weber's law without resorting to quantitative metaphors is all but insuperable. Thus if we say that our power to observe differences of sensation depends not on an absolute but on a relative difference of the stimulation, we are using language saturated with the quantitative connotation; and the difficulty is rendered greater by the fact that in the one series the quantitative idea is to be taken literally. The word difference is itself a source of danger. For example, if we employ Prof. Stout's notation and designate a series of sensations corresponding to an increasing intensity of stimulation by the letters r_1 r_2 r_3 and r_4 , we find ourselves at once referring to the degree of unlikeness between r_1 and r_2 as equal, under certain conditions of increase in the stimulus, to the degree of unlikeness between r_3 and r_4 . It is hardly possible to rid the mind of the tacit supposition that this must mean that when we estimate the amount of increase of r_2 over r_1 , and the amount of increase of r_4 over r_3 , we have in each case an identical quantity of sensation—which is in substance just the assumption of Fechner's law, although here the unit need not be the minimal difference. In fact to understand Weber's law in any valid sense there is demanded of us, the intellectual *tour de force* of conceiving differences as "equal," *i.e.* as represented by an identical and independent quantity of sensation which may yet be infinitely variable. The difficulty may be partly obviated by laying due stress on the word difference, and remembering that, absolute as every difference is, it implies the mutual reference

of two terms and cannot therefore, except in some very abstract system of reckoning, be conceived as *independent*. We may illustrate this from the numerical system itself—the abstract formulation of quantity in terms of discrete units. Arithmetically considered the difference between 1 and 2 and the difference between 19 and 20 is in each case one; but the difference between 1 and 2 is surely not equal to the difference between 19 and 20. These considerations as to the mutual reference of factors in all difference do not conflict with but rather confirm my contention that all difference is absolute. So absolute is every difference that it can be given only by the exact reinstatement of the context within which it falls. Thus the difference between 19 and 20 rightly understood is not interpretable in terms of the difference between 1 and 2, or in any other terms but its own.

Difference of intensity in sensation, then, I regard as a difference of quality; but as such it is a difference of degree, and falls within a dimensional scheme. One source of the tendency to conceive intensity from the quantitative standpoint is, I imagine, the complex nature of sensation as falling at once into several dimensions which vary independently. Take sound for instance. Sound is a three-dimensional sensation. . But any note may vary in loudness while remaining uniform in pitch and timbre. What more natural than to conceive this variation of an invariable as mere change of quantity? And yet there is a distinctiveness in the differences of loudness, which cannot be got into the abstract idea of mere increase or decrease by units. Or take the increased brightness or faintness of a colour. Is an increase or decrease in the brightness of an identical tone exactly and only the same thing which happens when the note G is sounded louder or softer on the bugle? Or can we even abstract a common element without the resort to analogy?

Granted then that differences of intensity are not to be accurately interpreted as merely quantitative, how are they to be explained? What is the dimension within which they fall? We can only answer: It is one among other dimensions, regulative of a certain form of experience, yet apprehensible only in this specific experience, and peculiar, in each instance, to a specific sense. As a fundamental principle, we cannot refer it to anything beyond itself, but experience teaches us how to order its content according to a single rule. All sensations fall into some such dimension and most into more than one. A concrete object apprehensible in sense we must regard as the meeting-place of many such.

The application of the dimensional idea to concrete wholes

of experience, even to sensations, brings with it a peculiar difficulty. I have said that continuity is fundamental in the nature of dimension; but within an actual experience I suppose such continuity is never realisable. As I phrased it before, in experience we are always brought up against discrete particulars. By this I do not mean to deny the continuum principle within experience as a whole. I am referring to the specific dimensions in their isolation and to the specific sense experiences which fall within them. Thus, for example, although I would admit the continuity of any mental state as a whole with that which went immediately before, I do not suppose it is possible for any one, in moving the eye along the spectrum, to obtain an absolutely continuous presentation of every possible variety of colour-tone. In listening to a single note of gradually increasing loudness the consciousness moves by jerks, with intervals where discrimination completely fails. It would seem therefore that in introducing the dimensional idea into actual experience we are introducing it where its fundamental character can never be realised.

There are several things to be said in reply to this. In the first place our actual impression may be that of a continuous experience. Differences which we are unable in any special connexion to distinguish will not interfere with the even flow of the presentation-continuum so far as our experience is concerned. In the second place the validity of the dimensional idea does not depend upon our being able to follow any dimension with an actual experience into every phase of its possible self-evolution. This would demand an experience of the infinite in both directions. And this difficulty is not peculiar to the dimensions of the specific sensations. The general forms of space and time are equally inaccessible to complete experiential articulation. All that is required is the principle of direction and an experience which, although never completely dissolvable, does order itself according to the lines of the principle. And this further consideration must be added. Although any individual experience, or any limited range of experience, must, from its very conditions, be discrete in the sense explained, it does not follow that experience in its general notion need be so limited. We do not require to go outside the nature of experience itself, except to the extent of expanding it, in order to conceive an experience which will somehow and somewhere have filled up all the lacunæ which we must suppose in any fragment of it. The *de facto* discontinuity of our perceptions (a discontinuity which need not be *perceived*

or even *perceivable*) does not imply the transference of this discreteness to the dimension itself. Thus suppose in the series ABCD etc. each of these letters represents a minimal difference in some special direction. Between every two members of the series we may insert a symbol representing a perception of difference which would be possible in some other connexion. Thus we get the series $a\beta\gamma\delta$ etc. The mind cannot perceive anything between A and B, but it may perceive a and β relatively to each other. And the possibility, so to speak, of switching off the series ABCD on to that $a\beta\gamma\delta$ is quite intelligible, if we think of D as followed not by E, the next minimal difference, but by ϵ , a somewhat "greater" increase, the co-ordinates of which in the series of minimal differences are $a\beta\gamma\delta$. Thus we evade any suggestion of a contradiction in the idea of the dimension as continuous and its content within experience as discrete.

But we have only raised a fresh problem, and a much more formidable one. If experience is potentially at least capable in different ways and at different times of the infinite differentiations characteristic of a continuum, are we not entitled to think of an experience able to contain these differentiations in an actual *de facto* continuity? Experience would seem to contain such a notion at least as a limiting conception. For we know that minds and sentient organisms differ in their power of discrimination. Thus if we add to the notion of experience that of infinity we have the notion of an experience of infinitesimals. But are infinitesimal differences differences at all? Where S and P differ from each other by an infinitely small degree, can we assert "S is not P" in that absolute sense which we maintain to be the character of the judgment of difference? The only answer is: We must keep to our fundamental conceptions, whether applying them on the finite or the infinite scale. If S and P are differences at all, then as such they are genuinely discrete: if they are infinitesimals then they are continuous; and we must conclude that on the infinite scale the continuous and the discrete, the dimension and its content are immediately one. Doubtless our human experience contains no indication of a consciousness which could subsist in the everlasting uneventful lapse of infinitesimal differences. But if the limiting notion of infinitesimals does not itself contain an *a priori* contradiction, there seems no reason in the nature of experience as empirically revealed why the limiting experience should not be conceived as realisable. The actual variability of sense discrimination, taken in conjunction with the actual variation in time discrimination suggests the

mutual bearing of the various dimensions and the possibility that a complete experience within any one would be a complete experience within all. And if the mind shrinks from the idea of an infinitesimal time experience (bringing with it an infinitesimal sense experience) we must consider that time is really an element in experience and that we cannot *think* it as other than infinite.

If there is anything in the dimensional idea, such questions must not be thought merely curious; for in terms of our characterisation it is fundamental that dimension should be conceived as infinite in both directions.

The application of the idea to infinity in the opposite direction brings its own peculiar difficulties. These arise from the decided limits to the range of specific dimensional characters within the various senses. How is it possible, for example, to conceive the dimension of pitch as infinitely extended in the outward direction, in view of the fact that beyond a certain point sound vanishes altogether—either into silence or a specifically different sensation? We must here again guard against making illegitimate use of the continuity of the physical concomitant. What we are considering is the continuity of the sensational dimension and not of the stimulus. But there is a certain suggestiveness in the continuity of the physical factor, especially when taken in conjunction with the view here expressed as to the absolute nature of all difference. The differences which fall within the continuity of a single dimension are as discrete and absolute as the others. While subjecting themselves to serial arrangement they are specifically distinct. And if this fact does not exclude them from the dimensional arrangement, we are hardly justified in condemning the dimensional idea right away on the ground that its necessary infinity is negated by the acknowledged outer limits of *specific* sense experience. We have here certainly a change in kind, but whenever we have difference we have such change. Moreover the change in kind to a certain extent falls into line with the continuous process which leads through the one specific range of variations into the other or out into unconsciousness. It is not an abrupt transition, definitely assignable to some one point in experience. These considerations are reinforced by the continuity, with distinct lacunæ, in the physical concomitant of sensation, the apparent susceptibility of the different sense organs to vibrations of a specific range of rapidity, and the suggestion of further possible modification in the organism to meet the intercepted ranges. The conclusion suggested is that in sense experience taken in all its

forms we have merely fragments of a single dimension emerging into and receding from consciousness at intervals which are determined by the special facts of physiological development.

Such considerations however are as yet perhaps too problematical to be made the basis of a definite theory. In any case, supposing we could assure ourselves of the genuine, though potential, continuity of the various senses, of sight with hearing and hearing with touch, might not our difficulty re-emerge at the outer limits of sensibility in general? In this case we should be obliged to resort to a similar argument and suppose infinite undeveloped ranges of potential sensibility.

A more immediate difficulty arises when we consider exactly what we mean by dimension in sense experience. We do not regard sight, hearing and touch, or sensibility in general, as distinct dimensions. Rather it is to certain fundamental characters within these different senses that we attach the dimensional idea—to tone and saturation in colour, to pitch and loudness in sound. It would thus seem that the dimension presupposes the specific form of sense experience, of which it is an ultimate expression. The only alternative to this conclusion would be to regard the dimension as a general character entirely independent of the specific sense which happened for the time being to give it articulate expression. Now that dimension is a general and objective character not fully expressible as any subjective fluctuation of mere sensibility the previous account ought to have made clear. It must be remembered too that space is an objective character indifferently apprehensible by various senses, and that its three dimensions must therefore partake of this fundamental generality. On the other hand the attempt to detach dimension from the specific modes of sensibility brings with it insuperable difficulties. Space itself, however we may generalise its characters, becomes contentless and ultimately a mere quantitative formula, in no way distinct from quantity in other forms, if we divest it of its specific sense references. Even time itself, which has no *specific* sense content, is something more than mere quantity in general. If it is quantity at all it is quantity in a peculiar and determinate kind. And this is what we miss when we over-emphasise the general schematic character of these forms. Space and time may possibly be quantities, but quantity is not necessarily either space or time. And as regards the distinct senses, we have seen in what difficulties we are involved if we try to conceive their differences of

intensity as mere differences of quantity. We must therefore conclude that general as is the dimensional idea, it is at the same time inseparable from some specific mode of realisation of which we can give no account that will convey anything apart from the definite experience. The dimension is a general scheme of differentiation in some determinate material; and the material is plastic to differentiation only on certain specific lines. Of course this applies quite generally, to dimensions, for example, where the principle of differentiation is the degree of goodness, of utility or of beauty. Only we must be careful to consider our data accurately according as the same object falls into different dimensions from different points of view. A colour-tone or a note of music has its determinate place and value in the dimension of saturation or of pitch; it has also its place in the dimension of æsthetic value and that again according to its context. It represents, so to speak, the intersection of various dimensions; but the fact that the different dimensions find a point of momentary coincidence in a single object does not in the least interfere with their complete mutual irrelevance.¹ I revert therefore to the statement that the scheme of differentiation which constitutes a dimension is a determination along some specific line.

A provisional solution to the difficulty as to the ultra-sensational ranges of the specific senses now begins to appear. Since an irreducibly specific character enters into each dimensional scheme, it is essential that we regard any dimension as *infinitely extensible in kind*. This infinite extensibility we must conceive as an objective character and quite independent of the uncertain range of sense susceptibility. Since dimension is a scheme of arrangement it is a mental construct, and in constructing the dimensional idea we must and *can* invest it with an objective range of application beyond what any actually realised experience is likely to give us. And if this is so the *possible* range of a *potential* experience need not trouble us. Nor does this conclusion reduce the dimensional idea to a mere mental abstraction devoid of the determinate sense reference. The dimension is quite unrealisable apart from a *certain amount* of experience; but given this amount, we are able to realise it for ranges beyond our actual or (under present organic conditions) possible experience. I do not mean of course that we can actually

¹ A certain objection might be taken to this. The note G *e.g.* (a certain point in the dimension of pitch) has a specific value in the dimension of beauty, *because* it is the note G. In spite of this, if the point were fully worked out, I think my statement might stand.

imagine, say, the note G raised to a degree of loudness enormously beyond anything with which experience has acquainted us. But no stress can be laid upon the presence or absence of this capacity to imagine. It differs enormously with the individual even within the ranges of actual experience; and surely no exception can be taken to the dimensional idea on the ground that many individuals, let us say, are devoid of a visual or an auditory memory. Hence I venture to assert that from experience of certain differences in the loudness of sounds we are able to construct the complete and objective dimension of loudness ranging from infinity to infinity. What we construct is indeed a mental form, but it is a form distinct and inalienable. It is not the bare idea of quantity or degree in any sense in which these ideas could be applied to an experience other than the loudness of sound. Space, time, pitch, colour-tone, warmth and cold, goodness and badness, beauty and the reverse are all alike in this respect. Objectively we must conceive them (this *necessity* is the mark of their objective character) as infinite gradations of some uniform differentiation within experience. Apart from experience they are nothing. We have no pure idea of them. And yet experience cannot realise any one of them for us in its actual *de facto* completeness. Again if there are apparent contradictions in the idea of a sense infinite, there are apparent contradictions in the infinities of space and time; and the infinities of goodness and badness, beauty and ugliness (the ideal standards on which the whole conception of moral and æsthetic differences depends) are apparently self-contradictory poles. The solution of the antinomies and of ultimate moral contradictions is not our problem here; but on this much we must insist. Wherever experience reveals a gradation of differences it reveals a line of process which we must conceive as infinite unless we are prohibited from so doing either on *a priori* grounds or by experience itself. Now experience in this case cannot so prohibit us; for the most it does is to fail to realise itself factually beyond a certain point; and such actual failure is no proof of real impossibility. On the other hand *a priori* reasons are of avail only in the case of possible contradictions; and it is not at all clear that the "bad" infinite (with which, quite frankly, we are here dealing) is self-contradictory. It becomes so of course if interpreted in terms of some other infinite—a self-complete and finished infinite, for example, which the "bad" infinite never is. The idea of complete goodness may be self-contradictory; but the dimensional idea of goodness as infinite is rather

that of goodness which is never complete; and the contradiction which attaches to that which transcends degree where degree is a constitutive notion, cannot possibly attach to that which from its very nature can never transcend degree. It is not in the a^{th} nor the b^{th} nor the c^{th} degree of goodness that the idea of contradiction can find a lodgment, but a followed by b followed by c followed by d *ad infinitum* is the dimensional conception of infinity.

The final conclusion to which we are forced is that we must take up the specific senses as we know them in experience—*i.e.* as distinct modes and contents of consciousness and assuming the dimensional character which experience reveals within them, we must go on to construct the dimensional idea as an infinite continuation of such experience along identical lines. Of course the necessity of construction does not interfere with the ultimate constitutive nature of dimension—any more than the fact that its specific character must be *discovered* interferes with its genuine originality. The idea, however, to which so many and so significant physiological and biological facts seem to point, that the various senses are really only particular ranges of a sensational continuum, part of which has either not yet emerged or has been submerged in the process of differentiation, here becomes a difficulty in its turn. But the difficulty need not be final. We may still begin with the specific senses as we know them, and fearlessly postulate an infinitely extensible dimension for the fundamental characters of each. The point to remember is that our *actual* range of experience is limited, and that beyond the limits of specific sense experience, although we must conceive, we are hardly able to imagine, the sensations we should have, were our senses gifted with a capacity for these ultra-human ranges. For all we know to the contrary the line of dimensional process which leads through the ranges of colour-tone may be the identical line which elsewhere leads through pitch. There is no *a priori* reason against it, for *a priori* reasons have nothing to do with determining a question of identity in the specific character of sense experience. Experience cannot at present offer any objection; for the clue of experiential continuity is just the link of evidence that is wanting. In this case we are entitled practically to ignore the possibility of the various senses lying on one line of advance, and to consider each separately as falling within an infinitely extended dimension of its own. Should further knowledge render certain the suspected continuity, the only change in our position would be that whereas before we were left in an imaginative obscurity

as to the actual *tang* in sense of the ultra-experiential ranges, now we should be able piece by piece to tap the latter. It is to be questioned however whether the supposed contingency will ever be possible (certainly it will be hard to establish its results) without the restoration (however that may be effected) of the intercepted ranges in their definite sensuous particularity and in all the fullness of an actually experienced continuity.

This account of dimension is of course highly tentative, and there are many points which it is quite impossible within the present limits to make perfectly clear. There are questions enough too arising everywhere to which I should be unprepared to give a definite or decided answer. If I were asked to specify the exact number of dimensions which exist and to give reasons for this number, I confess I should be baffled in each instance. And although I consider such questions unfair and based upon misapprehension, I am not sure that I have made this plain. The question of dimension in the senses of taste and smell and in the organic and kinæsthetic senses, as well as the dimensional arrangement of timbre, would certainly bring difficulties. The difference between an absolute and an experiential continuum, or between one which *seems* and one which actually *is* complete, has been assumed, and the assumption has not been fully justified, although the distinction has important bearings on the very notion of dimension. A problem lies behind the questions whether and in what sense position in a dimension is to be regarded as relative or absolute, and in what way the answer to these questions would affect the asserted absolute nature of difference. A further point which calls for elaboration, as bearing upon the relation of the two dimensional infinities is the fact that both in the sphere of consciousness and of physical and biological fact, a development in the direction of infinitesimal differences, what we mean by differentiation, is usually combined with a shrinkage on the outer limits. Differentiation and range tend to vary inversely. As regards the problem of qualitative difference as such, I have merely touched its fringe, where the problem seemed identical with that of degree or dimension. The possibility that all differences of quality may be ultimately reducible to differences of degree within some dimension or other was suggested in the foregoing argument, but nothing has been done to work it out. The designation of differences of degree as themselves qualitative brings with it difficulties when we consider that in this case all differences will be qualitative, and ask on what grounds some qualitative differences are arranged

together in a dimensional scheme while others are not. The only answer possible at present is a general and unsatisfactory reference to experience and experienced continuity.

In spite of all these deficiencies, the idea of dimension may not be without its truth and value—especially as a practical method of defining and arranging the differences which form the material of knowledge. Paradoxical as it may seem to say so, the conception, while bringing order and system into the world of differences, only strengthens our view that differences, as such, are absolute ; for it renders definite the *respect of difference*. And that dimension is not an inappropriate method of interpreting difference (at least on the present view) is clear if we consider that the nature of difference and the nature of dimension are fundamentally alike. Difference can be conceived only as an ultimate and irreducible character in the nature of the real. It is no thought universal abstracted from particular differences. It is too general for that. Surely it would be a hopeless task to generalise a notion of difference from the infinite variations which experience reveals. To the content of the general idea moreover no number of specific instances can add anything: no number of instances can cause a shrinkage of connotation or contribute the slightest modification. When we know what distinguishes the most similar of phenomena we have as clear a notion of difference as when we know what distinguishes the most unlike—just as, in the case of space, we get as clear a general notion from a square foot as from a million acres. Difference then must be presupposed, and presupposing it, we find it here and there marked out into certain paths of systematic function or process, like itself ultimate and irreducible, but well-worn in experience. Surely these may be used as indications of something fundamental in the all-inclusive notion of difference.

I may be allowed in conclusion to anticipate an objection which may be taken to my argument throughout. It will be said, perhaps, that while I have been insisting on the fundamental and irreducible nature of differences, the conception of dimension would be much more appropriate to an attempt to prove the *unity* of experience. For what are space and time, the idea of a uniform gradation of intensity, of a moral and æsthetic order, but forms whereby we seek to introduce unity and system into the manifold of things? That dimension is also this I cannot deny. My point is that differences in all their fundamental disparateness must not be interfered with in any unitary system. The tendency is to merge the differences of experience in their relativity. Relativity is

constantly employed to remove the sting from difference ; for it is difficult to divest the mind of the thought that what is purely relative is not completely real. Or else relativity is made the exclusive nature of the real ; and it is forgotten that if everything is only relative, then, if the relative is maintained to be the real, it has itself become an absolute. Now that differences are relative I have already admitted. They involve in every instance a reference to differing terms which cannot be considered independently. But the difference which involves the mutual reference of terms is still, *qua* difference, perfectly absolute, and implies in each case a unique and irresolvable character in the relationship of the terms in question. And if difference is relative to unity, of course it is equally true that unity is relative to difference. We are too apt to consider a problem closed if we can bring its varying elements together under a single head, and to resort to the general notion of unity as the solvent of all difficulties. We forget that unity as a general notion is quite valueless unless by way of a regulative principle, and that every genuine unity must have some specific character, due to the specific character of the elements which it unifies—in other words that it is itself a difference. In resolving difference therefore we do not resolve it into anything more fundamental or absolute than itself.

I shall close with an illustration which will indicate more or less proximately where I should look if I wanted to raise the question of how unity and difference come together as coequal ultimates in experience and in reality. I draw the illustration from Kant's argument against the Identity of Indiscernibles, which I may be allowed to recall.

"Leibniz," says Kant, "compared the objects of the senses with each other as things in general and in the understanding only. He did this—

"*First*, so far as they are judged by the understanding to be either identical or different. As he considers their concepts only and not their place in intuition, in which alone objects can be given, and takes no account of the transcendental place of these concepts (whether the object is to be counted among phenomena or among things by themselves), it could not happen otherwise than that he should extend his principle of indiscernibility, which is valid with regard to concepts of things in general only, to objects of the senses also (*mundus phænomenon*), and imagine that he thus added no inconsiderable extension to our knowledge of nature. No doubt, if I know a drop of water as a thing by itself in all its internal determinations, I cannot allow that one is

different from the other, when their whole concepts are identical. But if the drop of water is a phænomenon in space, it has its place not only in the understanding (among concepts), but in the sensuous external intuition (in space), and in this case the physical place is quite indifferent with regard to the inner determinations of things, so that a place B can receive a thing which is perfectly similar or identical with another in place A, quite as well as if it were totally different from it in its internal determinations. Difference of place by itself and without any further conditions renders the plurality and distinction of objects as phænomena not only possible, but also necessary."¹

I suppose modern idealism, as a whole, would accept, with Mr. Bradley, the principle of the Identity of Indiscernibles,² but it would insist that the principle be rightly interpreted. It would reject the illustration in question as quite beside the point, and would put both Kant and Leibniz right by a process of argument somewhat as follows. A spatial difference in two objects otherwise apparently identical is a much more serious matter than it appears; and, when fully unfolded with all that it involves, would reveal the similar objects as very far from indiscernible. Thus suppose two drops of water to be spatially distinct. This really involves in each case a vast complex of relations, differences of attraction and repulsion, of susceptibility to constantly varying influences, and so on. These, when taken into consideration, involve a vast sum of difference, which in the end would completely remove the illustration from the field as a relevant instance of the principle. The argument is plausible, but in the form in which I have expressed it, I do not think it will stand. Of course its real point lies in the implicit denial that two objects can differ in only one particular.

We are supposing two objects exactly similar in every respect except in this of spatial diversity; and, ignoring our presupposition, we go on to show that this one difference involves innumerable others. But if the only difference were spatial diversity, then this would not be so. For example, the water-drop placed at A has its own distinct "internal determinations," say its particular and constitutive attractions and repulsions; the water-drop at B has its. But the first drop being in every other respect identical with the second, must be interchangeable with it. Thus the two

¹ *Critique of Pure Reason*, Max Müller's translation, pp. 221-222.

² *Logic*, bk. ii., pt. i., ch. vi.

could be transposed without effecting the slightest alteration in the system of relationships which each is indifferently capable of assuming. It would thus seem that the two objects at A and B are identical transcripts of the same fact or system of facts. No. 1 is just No. 2 placed at A; No. 2 is No. 1 placed at B. This would compel us to concede to Leibniz the identity of objects whose one difference is their spatial diversity.

On the other hand this diversity itself now becomes unaccountable. Why should we have, how is it possible that we should have, a duplicate transcript of the same fact? Kant's way of referring it to difference of position in space, though fundamentally right and quite in accordance with the dimensional interpretation of difference, is not sufficient for our present purpose, unless we interpret it in the light of his doctrine of space as completed in the *Analytic*. That is, we must think not of mere spatial diversity as an abstract character, but of spatial diversity as the concrete product of actual synthesis. What constitutes the difference in this limiting and problematical instance is the distinct acts of synthesis required to give even two objects with an indiscernible content. Two waterdrops may be so alike as to be indistinguishable if viewed one after the other. But under certain conditions consciousness has a way of refusing to allow us to view them thus independently; and in compelling us to view them together it forces us to hold them apart. They stand at arm's length and refuse to devour each other. And the distinct jar in consciousness, itself a difference, becomes symbolic of further differences, which amount in the end to a genuine difference of content. For example, the double shock in experience indicates that we have here a divergency capable of generating still further divergencies—as when the two drops run together and become a larger drop distinct from each.

Thus synthesis is the fountain-head of all difference. Of course the statement is circular, for synthesis from the first implies difference. But this is of no account where the factor involved is the living activity of mind into which all differences fall and out of which they arise. The significant point is that this activity which generates absolute difference is the same activity which is the source of all unity. We need not therefore fear to implement the truth that all things are one with the truth that all things are different, and that difference is in its very nature, and cannot rightly be thought of as other than, absolute.

IV.—THE APPREHENSION OF FEELING.

BY HELEN WODEHOUSE.

1. CAN feeling be known?—the word feeling being used as a short expression for pleasure-pain and activity-consciousness and the whole subjective side of experience.

About the knowledge of present feeling in the ordinary sense I have nothing new to say. I have never so far seen sufficient reason to depart from the doctrine taught by Dr. Ward, that feeling and activity-consciousness are elements in experience, but that while they are present we cannot know them. Dr. Stout maintains the first part of this doctrine in his essay in *The British Journal of Psychology*, vol. ii., but in his address to the Aristotelian Society, 1905-1906, he opposes the second part. Whether the knowledge of present activity which he claims in the second paper is or is not the same as the activity-consciousness which he maintains in the first, I am not sure. If it is the same, my difficulty is this: activity-consciousness is characterised by not being knowledge in the ordinary sense, and I cannot see its claim to be called knowledge at all. If on the other hand the two are not the same, I cannot see reason enough for believing in the knowledge. When we desire a thing, says Dr. Stout, we know it as desired, and therefore know our desire. But the primary act, it seems to me, is simply to know-and-desire, to desire the known. To know that we desire is the act of reflexion that follows. It is possible that there is only a matter of words between us; and I am always uncomfortable when I differ from Dr. Stout. I wait to be converted.

2. I hold then that present feeling is not in the ordinary meaning known. Nevertheless I consider that in another sense it can be partly known, even while it still exists. What this knowledge is will become clear in the course of the examination of the second part of our subject, the apprehension of past feeling. If we take a first general glance at this, the arguments which strike us seem to be two.

(a) At first sight we are, I think, inclined to say that we can remember our feelings. I remember a day at school when I was extremely happy, and I certainly seem to remember the happiness. "Do you not," it may be said, "perhaps remember the cause, and the attendant cognitions, and so infer, not remember, that you were happy?" The cause was and is entirely unknown to me; the mood came unexplained. The attendant circumstances were London streets, a fresh wind, and grey roofs shining in grey light after rain. There were organic sensations, I suppose, but I cannot say that I remember them. The happiness certainly seems at first sight not to be inferred but to be directly remembered.

Against this argument that we can remember feelings two different objections have been brought. One is: "This is not a remembrance, a presentation of feeling; it is a revival. You put yourself in the old position, and are again glad." The other is: "You do not remember the happiness; you only remember that you were happy". Both these must be returned to later on.

(β) The second argument is a logical deduction from the fact of our present investigation. "Here are we examining, judging, and investigating feeling. How can it be said that we do not know it? If we judge, we must at least apprehend. Again, we can desire feelings and expect them, and be pleased or vexed with ourselves for having them. In all these cases, is not feeling the object of our apprehension?"

The objection brought against this argument is: "This is not knowing, but knowing about. You do not apprehend your feelings, but only that you did or will feel."

This answer evidently has the same sort of purport as the former statement that 'we do not remember happiness, but only remember that we were happy'. It is certainly very difficult sometimes to know what exactly we mean when we say that we remember. It will be wisest then to examine in the next place a few of the different things that remembering may mean. Or rather, not to tie ourselves to words, we will examine what we can do with a past process.

3. The simplest thing to do with a past process is to repeat it. I can submit myself again to a sensation; can go again through the arguments for my beliefs; can repeat to myself the poem which I learnt. We certainly use the word "remember" with this meaning sometimes. We say not only, "Do you remember that poem?" meaning, "Can you repeat it?" but, in the same sense, "*Can* you remember it?" This of course is the simplest thing to do with feeling. I can easily be happy again at the renewed thought of a piece of

good fortune; can revive my anger at an old injury. It is possible that sometimes when we speak of remembering feeling we mean only this. "Feeling-memory" in the sense of habit of feeling comes under this account. A cat of my acquaintance, having once caught his leg in a watch-chain and swung by it in the air, swore softly with a true revival of feeling whenever he met the watch-chain afterwards.

4. Next, there is another thing we can do with a past process. We can, without really repeating it, play at repeating it. When I cannot look at the blue sky, I may image it. Instead of playing on the violin the tune I played just now, I may go over it in my head. When I have ceased to believe in the premises of my old faith, I may still go over the arguments that followed. Without *reviving* my belief, I may still *recall* it. Where I no longer know, I may still assume. I may project myself back into the old place.¹

One of the most interesting chapters in recent psychology is that which works out the similar process on the side of feeling. As I recall my sight of past snows, my belief in a lost leader, so can I recall the feelings which accompanied them, and in all these cases to recall is not to revive. As I can act through to myself a scene of youth in which I heard that I had failed in an examination, so can I call up the dull misery of the hour—can feel it in play as I hear the announcement in play. Since I know that this failure, by affecting my plans, really laid the foundation of future success, I am far from being miserable about it now. In the same way I can share every sorrow of a hero of tragedy in the course of a uniformly pleasant evening.

This, I think, is very often what we mean when we speak of remembering feelings; and the failure to recognise the existence of these fancy-feelings has been the source of many of our difficulties of theory. For most people this way of remembering is easy enough—easier probably than imaging past organic sensations. We have only been induced to believe that we cannot recall feeling because we have disbelieved *a priori* in a recall distinct from revival. Whenever we succeeded in the easy task of play-feeling we have thought that we must be having the real feelings again.²

¹ Cf. Prof. Alexander in *Proc. Aristotelian Soc.*, 1908-1909: "Suppose I am remembering an event as happening to myself. . . . The past object is before my mind, but it is not present. But my past self is present. It is an extension backwards of myself. . . . We find just what we should expect to find if we understood mental events to be mere directions of consciousness. A past direction is a present consciousness."

² Cf. Prof. Alexander, *Proc. Aristotelian Soc.*, 1908-1909, pp. 35, 36: "Before it can be established that we have emotional or feeling memory

5. The question is, have we here a case of apprehending past feeling? When I first met with this chapter of psychology I thought we had. Now I am fairly sure that we have not.

German descriptions are obscure on this point by reason of their use of the same word, *Vorstellung*, for image and for presentation. Höfler,¹ taking his account of fancy-feelings from an article of Witasek's, makes no distinction between this sense of having feelings *vorge stellt* and the sense in which the psychologist has processes *vorge stellt* when he examines them as objects. Witasek² himself seems to take the fancy-feelings as presented. But Meinong,³ still referring to Witasek, takes them as analogous on the feeling side to assumptions on the knowledge side, and therefore as being still of the nature of feeling, and *not* objects of knowledge. In Meinong's account, that is, they are not presentations but true feeling-images.

I have little doubt myself that Meinong's treatment is right. The *Scheingefühle* are still feelings, though not "actual" feelings, not feelings-in-earnest, just as assumptions are still cognitive though they are not real beliefs. We are not here apprehending our past feelings. We are only playing at feeling them over again.

6. So far as we have gone, Dr. Ward's objection to all presentation of feeling still holds.⁴ It is true that what is not originally presentation cannot be made presentation by being repeated, in earnest or in play. The question is, then, whether we can do anything with a past process except do it again. Is there such a thing as contemplation apart from, or over and above, repetition? We shall find that our attempt to answer this question involves the answer to the second of the two objections from which we started, in that it obliges us to think out the connexion between knowing and knowing-about.

we must show that we are not merely remembering the bodily accompaniments, or the attendant circumstances, or the provoking object, of a past emotion, and so reviving that emotion. . . . We feel our present self extending backwards to the remembered event, and the pleasureable tinge in this experience is the ideal pleasure. It is quite distinguishable from the pleasure that we feel in the same object when actually present. . . . It is a pleasure ideally present, referred to the past of myself, which past is called up by the memory of the external conditions under which it occurred."

¹ *Psychologie*, pp. 209, 210.

² *Zeit. f. Psych.*, 1901: "Zur psychologischen Analyse der ästhetischen Einföhlung".

³ "Über Annahmen."

⁴ *Ency. Brit.*, first article on "Psychology," p. 44 b.

7. Suppose that I see, on the dress of a saint in a stained-glass window, a border of a peculiar shade of rose. I can, first, repeat this seeing by going to the church again. Secondly, without going to the church, I may visualise the tint. Thirdly, I may do more. I may remark to myself on the unusual nature of the colour. I may reflect that it occurred only in one other window of the church's magnificent series of ancient glass, and that I do not remember having seen it in any other church. I may wonder what particular process was used to produce it; may judge it to be a shade or two paler than a *La France* rose; may notice its rare harmony with the other colours in the window, and think it gives a tenderness and unexpected delicacy to the whole picture which could not be otherwise attained. In all these judgments I am apprehending that piece of colour which is their subject; and in all of them I am doing something more than merely repeat the process in which I apprehended it before.

Suppose that I have been taught in childhood a certain account of the history of this saint. I may go over it now in undisturbed faith. Or, if faith has disappeared, I may still go over the story as a story, without altering a detail. Thirdly, I may compare it with the histories of other saints, Christian and heathen. I may judge it to be beautiful, to be useful in education, to be fit to be taught as a parable if not as literal truth. I may form theories as to the way in which it arose. In all these thoughts I am apprehending in a new way the story which I used to believe and may still assume. This new apprehension is neither belief in the story nor assumption of it; but it is real apprehension nevertheless.

Finally, take my childhood's feeling towards this saint. If my faith has been retained, I may revive them now, or something near them; or by self-suggestion, even if my faith has been shaken, I may manage to repeat them. If I prefer it, I may without any illusion still play at taking the old place, still feel my old devotion in image though not in actuality. Thirdly, I may use contemplation other than repetition. I may estimate the value of these feelings in moral and religious development. I may note the history of their growth and decline, the way in which surroundings and interests helped them or hindered. I may see what they rested on; remember the commonness of such feelings in the young. In all these judgments I apprehend their subject. In knowing these things I know feeling. This is the true apprehension of past feeling. But further commentary is needed.

8. In examining this whole question of the knowledge of

feeling, I was troubled by the apparent self-contradictoriness of the statement—"Feeling cannot be apprehended". How, I asked, could one make a judgment without apprehending its subject? how could one think about a thing without thinking of it? The last section has shown that I still maintain this objection. But I think now that the original statement, if carefully expressed, may be maintained as well. To examine this, let us as before leave the controversial ground of feeling and deal first with objects cognised.

a. Take first my tint of rose-colour.¹ I can apprehend it in image and sensation. I can also apprehend it in thought,—as produced in the fifteenth century, as similar to the La France roses outside, yet not like them destined to fade; as connected with certain ether-vibrations; as a glory to the church. All this is real apprehension. I know the tint, not know about it. Yet it remains true that a blind man could be taught all this knowledge and still lack that knowledge which I had by sense. Or, to take an example which is much better because it is less likely to lead to irrelevant paths,—if I were not able to visualise colour I could still have in absence all this apprehension of thought, could know in absence all the colour's history and its gloriousness. But the rose-ness of it I could get only by going to the church again.

Sense and thought, that is, know the same object, but what sense sees in it thought cannot see. Green was wrong in holding that perfectly adequate conception needs no sensation to fill it up.² Thought knows the object [I insist upon this] but not in its sensational capacity. If the eye of sense is considered as occupying the blind spot in the eye of thought, then we may say picturesquely that thought, in knowing our object, *knows about* that element in it which sense knows. Of course it is most important to remember the other side; that sense is blind to what thought sees, which is by far the greater part of what is in the object. But that does not affect us just here.

b. So far the facts are clear enough. They are rather harder to see and fix when we come to the next level.

Take a statement in that history of the saint which I formerly believed. I can repeat my belief in it, or I can play at repeating and assume it. Thirdly, in contemplation other

¹ It will be just the same if I take, *e.g.*, a movement sensation, which in popular language "only exists at the moment of sensing". I have not taken trouble to use examples of this sort, because their peculiarity seems to make no difference to my line of argument.

² *Works*, ii., 190.

than repeating I can apprehend its connexions, history, value, and the rest. This is still apprehension; it is acquaintance, immediate knowledge. I am said to be thinking about the statement, but really I am *thinking it about*. I am pulling it about, making it exhibit itself, putting it in new fields of thought to govern them, making it grow.

I am still apprehending the statement. But so far as I am not repeating my original apprehension, so far as I am not apprehending just that in it which I apprehended before. The exhibition in new fields is new. I still know the object, but it-in-its-original-aspect I know-about.

9. With regard to both my instances, the colour in the glass and the history of the saint, what I am most afraid of is that emphasis may be laid on the second part of the last sentence to the overlooking of the first. I insist with all possible earnestness that if I know about I *know*. If I cannot visualise the appearance of the rose-coloured border, I can still know its position and value and uncommonness, its purpose and its history. I know that its tint is like that of a rose, different from a hyacinth, deeper than the sunset; unexpected, beautiful. My knowledge is not about it but of it. I know nearly all that is in it, that makes it; I know *it*. A man with the window in front of him, but with a concussion of the brain confining him to bare perceiving, would know the border too, but know less of it, less in it. Each of us knows it, and each knows-about that in it which the other knows. We must absolutely reject the plan of giving the titles of knowledge and acquaintance to sense-knowledge alone, and denying it to any apprehension in which only the sense-element is invisible.

It may be said that this is only a matter of words, that if we abstract and limit further, and take "the content of my sensation" for our "object," we shall have to say simply that thought knows about it without knowing it. No, for in this very judgment the "sense-content" has become an object of thought. And a thousand other judgments press in; the sense-content has a history, a place and date in my mental life, and relations to other contents; we can form theories as to its success in revealing the object; theories as to its difference from the sense-content of a colour-blind person looking at the window. The "object of sense" has indeed blossomed and swelled beyond the bounds of sense. No slip of reality can be cut so fine that it will not grow in the thought-field. No object can be made so microscopically small that it will not govern an infinite range of thought.

The difficulty lies indeed in explaining what it is that

thought is debarred from. Did I say that the rose-ness was invisible to it? In that very judgment the rose-ness is apprehended. Fortunately explanation is helped by the fact that nearly every one admits that there is a debarring, and knows the sort of exhibition which the object, rose-colour, gives in sense alone. I need only lay full emphasis on the other side, insisting that rose-colour is *known* not only in sense but in thought.

10. That which sense sees in an object thought cannot see; but is a mistake to explain this as the result of any character of uniqueness or peculiar immediacy which sense may possess. It is simply a special case of the obvious rule that "so far as I am not repeating my original apprehension, so far I am not apprehending just that aspect of the object which I apprehended before". The exhibition in new fields must be new. If I ask a different question, the object must give a different answer. Take a level where sense does not enter at all, and let our object be "the bishop who remodelled Exeter Cathedral, completing the change from the Norman to the Decorated style". This is my first introduction to Bishop Grandisson, but I may deepen and enlarge my acquaintance with him afterwards. So far as I do not repeat my first apprehension of him, so far I do not know him in the original way. It is possible that I may cease to be able to recall that first knowledge. Yet I shall hardly be said to have ceased to know Grandisson because I am obliged to ask, "What was it exactly that he had to do with the Cathedral?" Or it may be that my first introduction was to "a Bishop of Exeter called Grandisson". Returning after some years, I may say, "I know all about the bishop who remodelled the Cathedral, but I cannot remember for the moment who he was"—meaning only, "I have forgotten his name". It will scarcely be denied here that the so-called knowing-about is a better knowing than the original apprehension, but the original is omitted. Once more, let our object be the content of the assertion, "St. Dorothy sent flowers from heaven to the youth who loved her". This exhibition of the object is no more the end of it than the guide-book or passport description is the end of a man. I may think it about; may estimate the place of this incident in the story, its bearing on what precedes and follows, its value for the mediæval or modern story-teller and poet, or for the child who hears it in a Catholic school; I may think of its probable origin and its possible use as an allegory. In all this I apprehend the incident, but not just as I apprehended it to begin with.

11. The case of feeling is now probably clear enough. I

can apprehend it, and I do so whenever I make a judgment about it. But, as with sensation and belief, my apprehension does not give me just that element, or aspect, or exhibition of it which I had before. So far as I do not repeat a process, so far I do not get just what that process gave. Everything—everything in the widest and vaguest sense—is a law-complex which works inexhaustibly, and works differently in every field. Thought cannot exhaust what enters in sense, but neither can sense exhaust it; and feeling cannot exhaust feeling. My conclusion is, then, that feeling and activity-consciousness are in just the same position with regard to after-apprehension as are the presented elements in consciousness. For each we may use either repetition, or play-repetition, or apprehension-other-than-repetition. So far as we do not repeat, so far we do not get the same exhibition of the thing as we got before.

The sense in which I suggested that we might know present feeling will now be clear also. We know it when, and only when, our present act is *to think of our present feeling*. In that sense I know it while I write this passage. But in an ordinary act of cognition we cannot know present feeling any more than we can see our own face: it is not invisible, but we happen always to be looking the other way. As in a ghost story, I leave my past selves all along the road, and when I like I can turn and see them. Nevertheless, I cannot see what they saw, nor can I feel what their attitudes felt like, except by getting into them again. This is a perfectly possible proceeding, but it is a revival or recall of past process and not an apprehension of it. Between repetition and apprehension I have to choose.

NOTE.—Our relation to the feelings of others will obviously come under the preceding account. I may share them in genuine sympathy: or I may play at sharing them, in imaginative *Einfühlung*: or I may apprehend them in that in thought I perceive what they are. That is, they may supply me both with primary or imaged feelings, and with objective contents of knowledge.

The investigation contained in this essay was occasioned by the study of Prof. Alexander's most suggestive and provocative paper on 'Mental Activity in Willing and in Ideas'.¹ I have come to agree with a good deal of its doctrine, but with one passage I am bound to disagree even more completely than I did at first reading of it. It appears

¹ *Proc. Arist. Soc.*, 1908-1909.

on page 27 of the paper: "To me, I myself cannot be a *cognitum*, I can only be a *cognitum* to a being who stood outside both me and physical things, in the same way as I myself stand outside physical things and life. Life is an individual thing to the liver. But I can contemplate another being's life though I cannot live it. Now it is as impossible for me to contemplate my own mind as for an animal to live another animal's life. There is no reason, however, in the nature of things why a race of beings should not arise or be now in existence who can contemplate minds. Such beings would be of a higher order of mind and for them minds would be objects of knowledge."

I hope it is clear from the foregoing pages what my comment on this would be.

(1) I can and do contemplate my own mind as I contemplate physical things, and life, and anything else that I like in the universe. Prof. Alexander proves it by writing papers about his mind.

(2) But to contemplate is not the same as to live through. My contemplation of an animal's life is a qualitatively different experience from the animal's, and my contemplation of my own life is a different experience from the living of it; hence I can only contemplate the part which I am not engaged in living.

(3) As for the higher race of beings, they will have the advantage of being able to contemplate any part of my life they choose, since they are not engaged in living any of it; and they will presumably have the disadvantage of a much more limited access to what they want to know. So far they are in the same position as my next-door neighbour. If they are able by some means to share my feelings and thoughts, they may overcome the limit of access by living my life as well as contemplating it. They will then be in the same position as myself. Of course if they are cleverer than myself they will be able to do much more with that position. And if they can "enter into" my beliefs and feelings without being actually possessed by them, as I do fitfully with my past self and with other people, they will keep a calm and detachment of mind which will enable them to understand me much better than I understand myself. But I cannot imagine any other way than this. They can contemplate heaven and earth and myself and themselves, and so can I. And for all of us "seeing life" is a different thing from living it.

V.—DISCUSSIONS.

ABSOLUTISM IN EXTREMIS?

THOUGH Mr. Bradley's article in No. 74 expressly aims merely at re-stating his well-known views, it deserves to be noted that it really contains two very important novelties which threaten to end the long controversy about the logical character of Absolute Idealism. With great candour Mr. Bradley has revealed its true inwardness. The mask of Rationalism, which had worn rather threadbare, is dropped, and its underlying irrationality is exposed to view. We are explicitly assured of what many had long refused to believe, *viz.* that Absolutism never has been rational, and that, esoterically, its adepts have always known this. Says Mr. Bradley emphatically, "the immanence of the Absolute in finite centres and of finite centres in the Absolute, I have *always* set down as inexplicable". And again, "the immediate immanence of the one Reality in finite centres has always to be presupposed; and this fact, we have seen from the first, remains inexplicable," for though "we can understand *more or less* what . . . such an experience must be," "to comprehend it otherwise is beyond us, and even *beyond all intelligence*".¹

It was quite a mistake then to suppose that Absolutism aimed at the explication of experience, the satisfaction of the intellect, and the justification of the ways of the world to the reason of man; its real foundation lay elsewhere. Where, we are authoritatively told at last. Even if Mr. Bradley had not found metaphysical reasons for believing it, he would "still believe it upon instinct". The epigram about metaphysics in the preface of *Appearance and Reality* was, it seems, based on introspection. Indeed this instinct is the really inexpugnable ground of the belief, for "though I am willing to concede that my metaphysics may be wrong, there is, I think, nothing which could persuade me that my instinct is not right" (p. 171).

We have then *confitentem reum*. The *personal vision* which inspires and uplifts the mystic and the metaphysician in their suprasensible flights, and renders their mental processes so unintelligible to the earthbound crawl of scientific minds, stands clearly confessed. True, it is still disparaged as an "instinct," but this epithet only attests a lingering prejudice against the indecent

¹ No. 74, pp. 154, 173, 154. Italics mine.

intrusion of the person into the holy ground of metaphysics. "Instinct" is more potent than reason, but it is not reason, and it is not universal; it is *personal preference*.

So substantially there is no doubt that the critics of Absolutism as a system were quite right in both their main contentions. It is essentially an 'overbelief,' an affair of personal vision,¹ and it is *not* intellectually cogent.² Absolutism is a pure Rationalism as little as it is a product of pure reason, and even its claim to be rational is open to question.

This last concession is not perhaps made as explicit by Mr. Bradley as is desirable. But it is certainly implied. His doctrine is modestly "offered as something which can stand between us and theoretical scepticism" (p. 175).

But why should its offer be accepted? Merely because it is assumed that we do not *want* to be sceptics, but are intellectually desperadoes who "have got somehow to believe in something" (p. 156), and absolutism, with all its defects, is said to be the *best* metaphysic to be had.

To a pure rationalist this plea must be utterly unconvincing. He would turn up his nose at the effrontery of a metaphysic which bases itself on an emotional desire to escape from scepticism. 'I am willing to go,' he would say, 'wherever reason leads, and if reason conducts me to scepticism, why then a sceptic I must become. Nor do I want to escape from scepticism at any price. Certainly not at the preposterous price of the metaphysic you offer me. It seems to me a scepticism aggravated by a dialectical nightmare. I certainly do *not* want a metaphysic which starts with an initial confession that its fundamental pre-supposition is inexplicable, which plunges from paradox to paradox at every step, which glories in a notion of truth that makes every truth (including presumably its own assertions!) a sort of error and every reality a sort of illusion that can equally well be denied, which has to leave the concrete facts of existence unexplained and to abandon them and the sciences and practical life and indeed everything except what it is pleased to call "philosophy" ³

¹ Cf. *A Pluralistic Universe*, p. 20 f., p. 85 f.; *Personal Idealism*, pp. 87-88. It is always cruel, and in a sense unfair, to subject such 'visions' to a logical criticism which never penetrates to their personal core. But it should not, of course, be forgotten that professions of 'mysticism' may be only apologies for indolence or bankruptcy of thought. Still they are more frequently inspired (often unconsciously) by some sort of a logical motive. In this case the logical motive for the belief in the 'inexplicable' relations of the Absolute and the finite centres is apparently (p. 155) the old difficulty of preventing idealism from turning into solipsism. The result is the Janus-faced sort of 'absolute solipsism' which I have discussed in *Studies in Humanism*, ch. x.

² Cf. *A Pluralistic Universe*, pp. 120-123; *Studies in Humanism*, p. 297.

³ No. 72, p. 501; No. 74, pp. 163, 169.

to "practical makeshifts"¹ and "working conceptions"² of the worst pragmatic sort, and in the end, after all these outrages on reason, has to "agree fully that difficulties are left which, if you like to say so, must be swallowed" (p. 156), to doubt whether the most consistent man is he "who on the whole attains to greatest truth" (p. 170), and in short is habitually subject to fits when it seems "clear that the Universe is too much everywhere for our understanding" (*ibid.*).

'Why then go farther? Why harrow my feelings by going into the painful details of your failure to devise a rational and coherent theory of existence? Out of your own mouth you are utterly condemned: the most hostile critic could not possibly say more. You have said enough, and more than enough to show me that your theory is inconceivable and incredible. You need not reiterate it to make its meaning clearer. I understand it only too well, and the more you insist on it, the less I like it. I will not have it upon any terms. Better, far better, be an honest, downright sceptic, than thus play fast and loose with all the most sacred terms in the vocabulary of our reason. Best of all, if that seem to you the truth, confess that no rational solution of the problem of existence has yet been propounded, and suspend your judgment. You are not bound to adopt any one of a mass of futile speculations that are all incoherent and contrary to reason.'

Such, I imagine, would be the language a real rationalist would hold towards the Absolutism offered him. And Mr. Bradley would really have nothing more to urge. For to declare that it is the doctrine *he* had found "most tenable" (p. 154) would be discounted as parental partiality. To contend that it was the least "one-sided" of the alternatives (p. 175), would only provoke the retort that the internecine feud between the different sides of the theory was precisely the strongest reason for rejecting it. And the assertion that "since there is nothing which can be opposed to our main conclusion, that conclusion is certain, and we may rest on it as finally true" (p. 174), would be dismissed as mere inconsistency with the previous admissions that there *are* alternative metaphysics in existence (which are preferred by others, though regarded as more 'one-sided' by Mr. Bradley), and as being besides afflicted with the logical disability that the positive truth of a defective theory cannot be established merely by eliminating other theories as erroneous. For even if all the extant alternatives had been considered, the exhaustiveness of the analysis could never be assumed. In point of fact, Absolutism has neither considered all the alternatives, nor given any reason why, if they are all defective, our proper attitude should not be suspense of judgment.

Fortunately however for Mr. Bradley, the real rationalist is an ideal creature he is never likely to meet on earth. The other philosophers are more human, and another of his arguments will

¹ No. 66, p. 230.

² No. 74, p. 170.

appeal to them far more. After all Mr. Bradley is the last of a long dynasty of absolutist rulers in the realms of speculation. His 'vision' is quite 'according to Cocker'. It has been on view for ages. Many others before him have found comfort, entertainment or sustenance in a philosophic hotchpotch composed of very much the same ingredients. So he can rightly plead (p. 154) that "in the main I inherited this doctrine from others,¹ and find myself sharing it with others to whom it seemed and seems intelligible".

Is not this quite personal, and a little pathetic? And Humanists at any rate are quite willing to accept it as at least a psychological explanation of the belief in the Absolute. They will readily grant also that though a doctrine which squarely takes its stand on a fundamental inexplicability cannot really be a rationalism, it may quite well be a faith-philosophy (of the extremer kind), which works for some and satisfies their spiritual demands. Indeed they had the acuteness to suggest as much long ago.²

But they will insist on two things. In the first place, that it should be admitted on all sides what the abdication of Absolutism means. It means a revolution in the methods of metaphysical debate. It means an explicit recognition of the legitimacy of the personal equation in metaphysics. It means equal rights to a hearing for all views that find believers. It means an end to philosophic bigotry, arrogance and intolerance. No longer will it be possible to argue: 'I have *the* truth. You do not agree with me. *Ergo* you are no philosopher,' and then to cease from arguing. It will have to be admitted instead that all genuinely debated points are really doubtful, that the success of all arguments depends in the last resort on their personal appeal, and that different arguments appeal in different degrees to different types of character. Hence it will have to be conceded, as a matter of principle, that there may be minds which are constitutionally wholly impervious, or highly resistant, to the beauty and truth of the absolutist scheme, and that nevertheless it will not be merely the (recent) growth of controversial politeness which forbids an honest thinker to designate them as otherwise than human.

Secondly, they will call attention to the strangeness of the controversial *dénoûment*. For over forty years claims to superior rationality and accusations of philosophic obtuseness have been part of the regular stock-in-trade of the absolute idealist, and the pretensions of his doctrine have been those of a rational system. It is now conceded that it neither is, nor ever has been, either

¹ Much as J. S. Mill did that of the British Association. It will be remembered that he too unwittingly took over a "final inexplicability," and was exposed in consequence to unkind remarks. Verily Nemesis also repeats itself!

² Cf. *Pragmatism*, p. 273 f.; *Studies in Humanism*, pp. 275-276, 281-283.

completely coercive or completely coherent, that the belief in its rationality is a matter of "instinct," and that this instinct is by no means universal. Hence it appears that the whole controversial attitude of absolutism was neither true nor justifiable. Comment on the morality of such tactics is needless ; but the facts should be noted.

Both the humanist polemic, therefore, and the humanist contention as to the real nature of metaphysics are vindicated up to the hilt by Mr. Bradley's latest revelations.

So philosophic controversy must henceforth enter on a new era, in which doctrines will prevail, not by coerciveness, but by attractiveness, satisfactoriness and convenience. On this new ground what chance has Humanism to show itself superior in value to Absolutism in the eyes of those who are not already hopelessly committed ?

To me it seems as clear as daylight that its chances are excellent, even on Mr. Bradley's own showing. Absolutism is not depicted as an attractive creed : it is at most a desperate alternative to scepticism, and hardly seems to satisfy Mr. Bradley himself in all his moods.¹ Nor is it, certainly, a *convenient* philosophy, seeing that it is both difficult to grasp and impossible to apply to science or life. It is hardly likely, therefore, that Mr. Bradley's reiterated expositions will make any further converts.

But it deserves to be noted that they contain also positive grounds for preferring the Humanist alternative, not merely indirectly, because by leaving it out of his calculations he has logically vitiated his advocacy of Absolutism as the least unsatisfactory of philosophic positions, but also directly, because the problems which show themselves most obdurate and paradoxical under his treatment are precisely the ones which yield most easily to the humanistic method. The observation applies to the present article also, though not as manifestly as to those in Numbers 71 and 72.

Perhaps the clearest and most decisive illustration of this point may be drawn from a passage on page 166, where Mr. Bradley is labouring to show that not even in 'designations' can there be found any self-contained and self-consistent meaning, and arguing that "the 'this' which you feel and which you mean, does not trouble itself about a 'that,' since it is positively itself. And since your truth fails and must continue to fail to contain this positive meaning, your truth is defective."

Now here apparently there is flat self-contradiction. Mr. Bradley (1) admits that *we* mean a 'this,' and yet contends (2) that our truth fails to contain this meaning. But how can *our* truth fail to contain what admittedly *we* mean? We mean the 'designation' (and indeed every judgment) to convey the full

¹ I have discussed his attempts elsewhere to drop the Absolute and to argue sceptically and pragmatically in Nos. 63, 67 and 73.

particularity of the situation we have selected for comment ; surely therefore, if our assertion fails to convey the meaning we meant *in its full particular reference*, what *we* meant is *not* apprehended, and what is apprehended is not our meaning. To prove this point, therefore, Mr. Bradley would have to show, not merely that a particular meaning is not always understood, but that it never can be. But this surely is absurd.

Hence the precious doctrine that we can never mean what we mean by a 'this,' is put into a dilemma. The terms in a designation must either be capable of conveying a particular meaning or not. If (1) terms like 'this,' 'my,' etc., are so inherently 'universal' that they cannot *become particular* even in use, they cannot serve to convey a particular meaning at all. But how does this accord with the familiar facts that we can not only mean assertions to have a particular reference, but that such references are frequently *understood* and succeed in conveying our meaning? On Mr. Bradley's interpretation it remains an insoluble mystery why, when he says to his scout (who is the Merton philosophers' 'plain man'), 'Bring me my hat,' the scout brings Mr. Bradley's hat, instead of his own or any other any one else might designate as 'my,' or why he refrains from pointing out to his master that he has asked for the Absolute, and that the finitude of both of them precludes compliance with his demand. Yet if the scout understood Mr. Bradley to mean what as a logician he thinks he is bound to mean, an incisive complaint against him would speedily be sent to the domestic bursar. Clearly then Mr. Bradley cannot act on his own theory of judgment. And this suggests a question as to what right the logician has to intervene when two people understand each other, and to tell them they were both mistaken, the one in thinking he meant what he meant, and the other in thinking he understood it, and that they were really both talking about an Absolute neither of them had ever heard of and totally irrelevant to their actual purpose. The sole case which might seem to militate against the denial that the 'Absolute' is ever the subject of judgment would seem to be that of two philosophers talking about it. But as this case would manifestly involve its relation to 'finite centres,' and this is now admitted to be 'inexplicable,' it is clear that the meaning of any affirmation about the Absolute would be *indeterminate*. And until its meaning can be determined logic is hardly called upon to consider it.

(2) It would seem then that logic must somehow condescend to acknowledge that the 'this,' 'my,' etc., somehow manage to be really particular, and to designate the particulars they refer to. But, if so, does not the cognitive operation expressed in the judgment hit its mark, and effect the transformation of immediate experience at which it aimed? How in this case can it be charged with engendering the infinite process of futile self-transcendence, which, we are asked to believe, is the incurable disease of judgment as such?

The whole of Mr. Bradley's logic stands and falls with his analysis of this crucial case. If judgment cannot here be proved to be inherently diseased and afflicted with a congenital incapacity to realise its aim and to convey its meaning, it cannot be inferred that the Absolute is the real subject in all judgment and that metaphysics must provide an asylum for the failures of logic.

Yet the whole difficulty is purely factitious. The disease is purely imaginary, and exists not in the actual functioning of thought, but in the logician's false analysis thereof, being at bottom a disease only of language. I have already suggested both the cause of the malady and its cure.¹ The cause is a confusion of the actual meaning of the judgment *when in use* with its *potential* meaning as a form of words.² The former always has a particular application (whatever the words used), the latter is always 'universal'; and the transformation into the former is always effected by the personal interest of the thinker who wishes to use the words to convey an actual psychical meaning.

Hence to abstract from the personal aspect of judgment is to destroy its whole meaning, and to substitute for it a form of words, which may be used to mean anything any one can manage to convey by it, but does not as yet mean anything at all. It is true that logic in its traditional form has always uncritically made this abstraction; but then it has never condescended to study adequately the nature of judging as a psychical process. And so it has never understood the real act of judging, and it is no undeserved penalty for this negligence and this outrage that its theory of the depersonalised judgment should in consequence fall into the absurdities which Mr. Bradley has rehearsed so often and so eloquently.

But the humanist reply is simple. The psychological nature of judgment is personal, and as infinite as personality; its logical nature is essentially expressed and easily exhausted by its relation to the purpose (whatever it was) for the satisfaction of which it was framed. If it succeeded in ministering to that, if it expressed and conveyed what its maker meant when he used it, its truth stands unimpeachably, and its validity is immobilised in the past;³

¹ No. 73, pp. 40-43.

² It may here be suggested, as a point to be expounded another time, that the famous 'concrete universal' of Hegel is nothing essentially but a form of this confusion. For what alone is really 'concrete' about it is its use or application. Hegel perceived that the traditional account of the function of universals was wrong, but not that the source of the error lay in the abstraction from their use. So he propounded as a cure a 'dialectic' of pure thought which is the high-water mark of the very 'fallacy of the abstract universal' which it was trying to transcend.

³ Of course it may still be revalued, as it is not true humanistically that the past is in all senses immobile. But this can only happen if it becomes related to another and future purpose, and a *new* judgment is made about it. So 'it' is not properly the 'same' judgment.

if not, it is voted a failure and superseded at once. In either case, its function and its meaning were relative to a particular situation, and it was by its adequacy to that alone that its truth or falsity was estimated. And let it not be objected that the 'particular situation' is the product of 'arbitrary' (*i.e.* purposive) selection (*alias* 'mutilation'). For that again is the work of a personality, and not merely intellectual. It therefore is nothing for which the judgment can be rendered responsible. As Prof. Dewey has so admirably shown, it is the situation which generates the judgment, and not the judgment which ordains the situation. Discursive thought must never forget its dependence on, and allegiance to, immediate experience, though it should equally eschew the temptation of conceiving itself as radically opposed to that experience, after the fashion of the Bradleyan antithesis of 'thought' and 'feeling'. For after all in its concrete fulness every judgment is an *act*, a psychical experience, and a logical experiment. Moreover, unless there had been before the making of every judgment persons willing to take the risks of selecting relevantly to their interests out of the amorphous continuum of experience, there would have been neither judgment nor logic. Hence it seems absurd for logic to conceive itself as a fundamental protest against the very practice of selective judging to which it owes its existence.

I find it difficult, in conclusion, not to believe that if Mr. Bradley would only consent to drop his 'Hegel' for five minutes, and to let his psychological acumen (of which he has abundance) play on the actual facts of knowing, he would discover that the central defect in his logic is simply that it does not consider actual judgment at all, and that all his perplexities arise from his attacking the mere verbal form of judgment, and are, in consequence, quite gratuitous and irrelevant to actual thinking. But I fear that the Hegelian obsession may prove too powerful for even his outspoken perception of the painful consequences of his uncriticised assumptions to lead to their revision. For experience shows, alas, that it is only too true—

Wen Hegel mal paralysirt
Der kommt so bald nicht zu Verstande.

Nor can I help confessing that in feeling that the gratuitous illogicality and irrationality of Absolutism must be capable of becoming equally evident to other minds, I too may be only exemplifying the reality of that personal bias which is now extorting recognition of its existence and importance from all schools of philosophy.

F. C. S. SCHILLER.

PHILOSOPHIC PRE-COPERNICANISM.—AN ANSWER.

IN the April number of *MIND* Mr. D. L. Murray has done me the honour of criticising two chapters of my *Kant's Theory of Knowledge* in which I try to vindicate the position which he describes as that of "naïve realism". It is, I think, clear that in several minor points Mr. Murray has misunderstood me and that in others his criticisms are inapplicable; but the necessary explanations would be of no general interest and, so far as I can see, the answers can be supplied from the very passages to which he refers. Mr. Murray's main contentions, however, seem to call for a very brief reply. They appear to be two.

(1) According to the first, the position that knowledge, to be knowledge, must not affect or alter the reality with which it deals should be not merely asserted but proved. To assert it without proof is to beg the question, since it is really the question at issue between the realist and his opponents. "When once a 'self-evident' truth has been challenged (as this was by Kant) does it not require defence?—if only by the method of pointing out the disastrous consequences of its denial?"

To this the reply does not seem difficult. It is not true that any thesis which any opponent chooses to challenge requires proof. If it be self-evident, the proper way to apprehend it is to see its truth directly. The fact that it is not proved does not render it a mere assertion; from the nature of the case direct proof is impossible, and a *reductio per impossibile* is, in virtue of its indirectness, always unsatisfactory. If, however, an indirect proof is desired, it is enough to point out that Mr. Murray himself is good enough to offer the best one possible and even to put it into my mouth. To the assertion that in the act of knowing the mind transforms the bare reality given to it, he says: "Mr. Prichard would probably reply that such a process is not knowing". What further answer could be required by the most exacting of critics?

(2) Mr. Murray's second contention, which is implied rather than directly stated, appears to be that the opposite view is true, or at least very possibly true, *viz.*, that the mind alters a reality in coming to know it, and that the qualities we attribute to it belong to the reality as apprehended by us and not as it exists apart from our apprehension. "In ordinary terminology the object of the inquirer is to know the 'thing,' not the 'appearance'". But which is the 'thing' we wish to know? The thing as it is apart from us or as it is in interaction with us? Let us revise our vocabulary. Let us call the reality as apprehended (and possibly transformed)

by appropriate mental process the thing or the object of knowledge. And let us dub the 'thing in itself' of Kant which is reality anterior to being known, $\epsilon\lambda\eta$, the raw material of knowledge. . . . On this hypothesis we can read an intelligible meaning into the Kantian statement (that time and space are relations of things as they are perceived), since phenomena are no longer purely mental existences of which it is nonsense to predicate spatiality. They are, on the contrary, the transformed $\epsilon\lambda\eta$ of reality, of which transformed objects spatiality may be a true attribute."¹ "It makes an enormous difference whether the object of knowledge spoken of is as it appears at the beginning or at the end of a cognitive process, and until Mr. Prichard explains how and by what means it passes from the one condition to the other his theory has no very relevant relation to the facts either of science or of common life."²

If I follow Mr. Murray rightly, he advances in support of this position two *argumenta ad hominem*. In the first place, he argues, things admittedly may look what they are not in the case of even that secondary quality which seems most obviously objective, *viz.*, colour. Hence a similar admission must be made in the case of the primary qualities. Further, "a thing may 'look' its true colour or a 'false' colour—while all the time it is not coloured. Similarly may we not make true and false statements about the spatial qualities of things—while all the time spatiality is not, in Mr. Prichard's sense, real?" In other words, while a thing must be admitted to be possibly not spatial in itself or apart from us, our ability to draw a distinction between the real or true shape of a thing and its apparent or false shape implies that there must be a true or real shape which it really has in relation to our apprehension, though possibly not in itself.

In the second place the 'naïve realist' lays stress on ordinary language, and in ordinary language we use phrases, such as 'it is hot' and 'it is red,' and even predicate 'is' of the worlds of dream and fiction. "Clearly then when we say 'is' we do not invariably assume that rigid demarcation between objective things and subjective appearance upon which Mr. Prichard builds his theory of knowledge." That is to say, the appeal to ordinary language reveals the implication that a reality may really possess a quality in relation to us which it does not possess in itself.

In reply, so far as I can see, with all deference to Mr. Murray, it is only necessary to repeat considerations which I have already adduced in the chapters which he criticises and which he appears either not to have noticed or at least not to have seriously considered.

(1) There is *no sense* in saying that a thing may have a real shape in relation to our apprehension, though not in itself.³

¹ *MIND*, N.S., No. 74, p. 232.

² *Ibid.*, p. 235.

³ *Kant's Theory of Knowledge*, p. 72.

(2) As I have endeavoured to argue in detail,¹ there is *no sense* in distinguishing between a true and false colour or shape (or other quality) *on the supposition* that the true colour or shape (or other quality) is not one which the thing must possess in itself and apart from us.

(3) The appeal to ordinary language yields the opposite conclusion to that drawn by Mr. Murray. We only use phrases such as 'it is hot' or 'it is red' *before* it has occurred to us that the heat or the colour cannot belong to the thing apart from us. Once this reflexion is made, we alter our language and say 'it appears hot' or 'it looks red'. Thus both before and after the reflexion the real implication of our language is that if a thing is so and so at all, it is so in itself and apart from us.²

In conclusion it may be well to refer to one passage in Mr. Murray's discussion. "Mr. Prichard says, on page 124, that on his own view 'Knowledge is *sui generis*, and as such cannot be explained'.³ If so, it is surely a pity that books should continue to be written on the theory of knowledge. But if Mr. Prichard is right and the other philosophers are wrong, it follows that, on Mr. Prichard's own showing, one thing needs to be explained, how their error, and indeed error in general, is possible." Now (1) as to books on the theory of knowledge, I can only say that, as the subject is usually understood, I regret that books should continue to be written on it. I have already urged⁴ that just because knowledge is *sui generis*, a 'theory' of it is impossible. If this be so, the student who devotes attention to this supposed subject only diverts himself from the real issues of philosophy; and in this respect the Greeks had, it seems to me, a great advantage over modern philosophers. Study of the subject, however, like other forms of philosophical error, appears to resemble measles in that all students of philosophy must undergo an attack of it. (2) As to the possibility of the mistake of believing in the existence of this subject, the answer seems fairly plain. In philosophy, at any rate in its early stages, the main difficulty is to formulate the proper questions, and philosophers do not sufficiently inquire whether the questions which they seek to answer are legitimate.⁵ Moreover the faulty character of their question is often not revealed in the course of investigation, because they do not sufficiently consider whether the answer proposed is something which they really *think* and do not merely *say*. Finally, (3) as to the need of explaining the possibility of error in general, which Mr. Murray implies that I have wholly neglected, I would point out that at any rate one of the two chapters which he criticises is largely devoted to dealing with what is perhaps the most important case of error, that of sensible illusion.

H. A. PRICHARD.

¹ *Kant's Theory of Knowledge*, pp. 94-100.

² *Ibid.*, p. 72.

³ *MIND*, N.S., No. 74, p. 236.

⁴ *Kant's Theory of Knowledge*, p. 245.

⁵ Compare the prominence of the fallacious questions: 'What is the relation of the universal to the particular?' and 'What is judgment?'

THE ENUMERATIVE UNIVERSAL PROPOSITION AND THE FIRST FIGURE OF THE SYLLOGISM.

MANY must have read with interest Mr. W. J. Roberts's paper in the April number of *MIND*, on "The Enumerative Universal Proposition and the First Figure of the Syllogism". The arguments which he brings forward seem clearly to be syllogisms, and such arguments, though not demonstrative, are surely often and properly used. At the same time this does not seem to me to lead to a 'class-interpretation' of the major premise in syllogism, as it does to Mr. Roberts. May I try to justify this opinion?

A class, I suppose, is all the things possessing some common character. If I really give a class-interpretation to a universal proposition, I must be thinking, when I enunciate it, of all the particulars, *e.g.* 'Both his legs were broken': for the fact that there are only two members of the class does not make *tous les deux* less a class. But if the class is a large one, I cannot in enunciating the proposition retain the thought of every member, though I may believe the proposition to be true of every member. In this case, I need to recognise S^1 as a member of the class, in order to see that the proposition applies to S —that its predicate holds of S . Here therefore there is inference, and syllogistic inference: I come to know that S is P by thinking together two things, either of which I might think separately: whereas, if in enunciating the universal proposition I had really been thinking of all the particulars, I should have been thinking then that S is P .

It will probably be said that the class-interpretation of syllogistic reasoning does not suppose that the minor term is explicitly thought of in the major premise: the minor premise is needed, asserting membership of the class. But this seems fatal to the class-interpretation; for now the major premise must be regarded as making a statement not about a class M , but about membership of the class M ; and membership of the class M is not a class. In other words, if the major premise is seriously a statement about a class, it is a statement about all the things that are M , S included; and there is no inference. If there is inference, it is because the minor premise asserts of S membership of the class M ,² and the major premise asserts a connexion, or conjunction, between membership of the class M and P ; it is not therefore a class-statement.

¹ Throughout what follows, S symbolises some individual.

² *I.e.*, asserts 'being M ,' M being now taken in intension.

But why, if this is true, should it be any objection to a syllogism that its major premise is reached by a complete enumeration? Because then the syllogism is worthless as demonstration. A man who believes or admits such a major premise, in which the members of the class are not all thought of, but membership of the class is given as involving a predicate P, is bound to conclude, when S is accepted as a member of the class, that it is P; there is an *ἀνάγκη λέγειν*. But this is, in Aristotelian language, dialectical and not apodeictical. He can never *know* this way that S is P, and the argument, regarded as one to prove it, must turn out circular; for the major premise will rest in turn on showing that S is P.

The major premise, in such a case, is a memorandum, the result of a past enumerative inquiry.¹ I would suggest that we may go further, and say that in syllogisms of the first figure the major premise always has the nature of a memorandum, though the memorandum is not always the result of a past enumerative inquiry; it may be the conclusion of a demonstrative or inductive argument, or taken from a sacred book or a book of reference or the clause of a statute. These differences are not unimportant, if we consider (as we should) our thought rather than our language. When I say that the areas of semicircles are as the squares of their radii, though I may have never known, or have forgotten, the demonstration, yet I should think there was an intelligible connexion; but when I say that no headmaster of Clifton has died, I do not suppose for a moment that the office in question confers immortality or even promotes longevity. But for there being major premises of the former type, Aristotle could never have represented syllogism as the form of demonstration. In the *Prior Analytics* he is concerned merely with the *ἀνάγκη λέγειν*: in the *Posterior Analytics*, it is the connexion between the terms, seen to be necessary, which makes the syllogism furnish *ἐπιστήμη*. Nevertheless, if we fully understood the connexion, we should not have to appeal to a major premise. In the subject before us, we should see that one character involved another, and seeing it, be able to generalise, and extract a universal proposition from the subject before us, instead of subsuming the particular under a universal principle.

Syllogism in fact, in the first figure, is subsumptive: in subsumption we always appeal to, apply, or make use of a universal premise, the necessity of which is at any rate not realised at the moment; it may have no necessity at all; but in scientific examples, it is believed to have necessity, though we lack insight into the necessity;² if we had the insight, there would be no subsumption. Aristotle at times saw this, when he discussed the nature of the premises of demonstration, and urged that they, and therefore the conclusion also, must reciprocate; but because the middle term was to give the cause, and because he thought that cause and *causatum*

¹ This is put better than I could put it by Mr. Roberts on p. 240.

² Cf. Dr. Bosanquet, *Logic*, vol. ii., pp. 201-204.

could no longer be discriminated, if reciprocating or commensurate, therefore he continued also to maintain that in demonstration you appealed to a major premise, in which the predicate (as he might put it) ἀκολουθεῖ τῷ μέσῳ παντί, καὶ ὑπερέχει (cf. Post. An. II., p. xvii). Hence he left room to represent demonstration as subsumptive. Again, an argument, if really subsumptive, always includes some interpretation of what is involved in a statement; for if you do not reach the conclusion by a complete understanding of the facts, you must reach it by seeing what is involved in the admissions you have made. Hence there is truth in Mill's account of it as interpreting a memorandum; Mill errs first in holding that the memorandum is based always on enumeration, and secondly because his view implies that it is false, being stated in the form of an enumerative universal when the enumeration is incomplete; clearly if the memorandum correctly recorded only what on Mill's theory has been ascertained—i.e., that most or many M are P—the argument would fail: given the premises, no conclusion would συμβαίνειν ἐξ ἀνάγκης—there would not even be an ἀνάγκη λέγειν.

If these considerations are sound, syllogisms may sometimes properly employ enumeratively universal major premises, and yet the *Dictum de Omni et Nullo* in its class-interpretation will not represent the real nature of the reasoning in them.¹

H. W. B. JOSEPH.

¹ Perhaps I may add, as Mr. Roberts refers to the work at the end of his article, that most of what has been said above is indicated more briefly in *An Introduction to Logic*, p. 307. Mr. Roberts criticises the canon of first-figure syllogism which (following Mr. Bradley) I have adapted from Kant, *ib.*, pp. 286, 287: 'What satisfies the condition of a rule falls under the rule'. He asks what is the difference between satisfying the condition of a rule and falling under it. If the rule is that all M is P, I suppose S satisfies the condition by being M, and falls under the rule by being therefore P. I said 'satisfies' rather than 'falls under' the condition, in order to avoid suggesting a class-interpretation of the major premise; S 'satisfies' the condition by being M; it 'falls under' the condition by being one of the M's. In other words, I wanted to suggest that the argument moves by showing, or getting it admitted, that a certain character M, a universal, attaches to S, with which another character P is alleged to be necessarily connected or at least always found, not that S is one of the things thought of in saying that all M are P. If the phrasing cannot carry this suggestion, it has no special appropriateness. I do not wish to limit "syllogistic reasoning to syllogisms in which the major premise is a universal expressing a necessary connexion," or to "support the interpretation of the true universal proposition as hypothetical". But I still think the canon just quoted is philosophically superior to the *Dictum* in its class-interpretation, and I cannot see how in Logic what is philosophically superior could be pedagogically inferior. What does the logician want to teach?

THE HUMANIST THEORY OF VALUE.

MR. QUICK's article in this periodical for April had a special interest for me, arising from the circumstance that, in my anti-pragmatist days (now happily passed) I was vexed by the same difficulties and moved to urge substantially the same objections to pragmatism as those which are so well presented in Mr. Quick's Criticism of Humanism. In my discussions with Prof. James and Dr. Schiller (see *Journal of Philosophy, Psychology and Scientific Method*, vol. iii., No. 22; vol. iv., Nos. 3, 11, 18 and 29) I charged my pragmatist friends with logical inconsistency in first asserting that truth is valuable, and then asserting that truth and value connote the same matter viewed from different points in experience. It seemed clear to me then, as it apparently now does to Mr. Quick, that the proposition which asserts, Every truth has value of some sort, logically implies that the truth itself or the true idea must be other than value; and only because it is other than value can it have valuable consequences in experience. This reduction of truth to value seemed as absurd to my anti-pragmatist mind as the confounding of the utility value of an instrument with the instrument itself. Who would say that, since the value of a knife consists in its cutting well, therefore this cutting well is the knife itself, or is the same thing as the properties of the steel and the structure of the knife on which this cutting value depends? But, not to continue this accident of my experience with pragmatism, I will merely say that it was by a more thorough re-examination of my own reasonings, under the stimulus of the counter-challenge of the pragmatist, to find any really significant and verifiable meaning of the terms truth, value, etc., if the pragmatist meaning is rejected, that I was led to the conviction that Pragmatism is not only a logically tenable doctrine, but it offers a more satisfactory solution of the problem of knowledge than does the theory it displaces.

In justification of this position, I will now indicate how a pragmatist can successfully meet Mr. Quick's criticism of his theory of value.

And first, I do not think the pragmatist will accept Mr. Quick's suggestion that the term pragmatism be restricted "to the logical method which asserts that the truth of all judgments is to be tested by the value they are found to possess, and to reserve the term humanism for the epistemological theory, that truth itself is a kind of value". Whatever may be the difference between pragmatism

and humanism, that difference is not based upon the relation of truth to value. It is upon this relation of truth to value that Mr. Quick centres his criticism of the doctrine that truth is a species of value. He appears to assume that the humanist derives this proposition from the proposition that the value of judgments varies as their truth. And this inference Mr. Quick maintains is invalid.

Now, what really does the pragmatist mean, when he couples these two propositions? True ideas or judgments are those which are valuable. The truth of an idea or judgment is its value in experience. Is not his meaning merely this, Value for our human purposes and needs is the necessary mark of a true idea, because it is all that can be meant by the trueness of this idea. Consequently where you find this mark, you may know that you have a true idea. Value is both the essence of a true idea, and the sign of its presence in an idea. The function of a true idea is to institute, control and guide experience processes to a satisfying issue. This manner of functioning is just what is meant by the truth of the idea; and an idea makes good its claim to truth by this functional value. Therefore the value of an idea and the truth of an idea are names for essentially the same thing. Now, it is against this fundamental proposition of pragmatism that Mr. Quick directs his criticism (pp. 222 ff.).

Against this theory of truth as value, he urges an objection which he apparently regards as an insuperable one. It is the existence of certain beliefs which he maintains "have value for our lives only in so far as they are held to be other than valuations". Of this character are the beliefs of religious people, belief in God, belief in a next world; and historical beliefs.

In the case of our religious beliefs, Mr. Quick contends that it is just because their belief in God is held to express truth irrespective of its value for life, that this belief has such enormous value for life. In the case of historic truths Mr. Quick's contention is that the belief that historic truth is other than a value is essential to the value of this belief. He further asserts that, in order to establish the truth of these beliefs by the method of pragmatism one must "assume the falsehood of the humanist's theory of truth" (p. 224).

Now, I do not think the Pragmatist doctrine of truth is open to the objections Mr. Quick urges. I can see no such crux before the humanist in the instance cited. Take the belief in God. Let me, as a pragmatist, ask Mr. Quick what content of truth is there left in his idea of God, when there has been subtracted from that idea all that connotes value for our human lives in the way of putting us into experientially good relations with God, such as trust, reverence, obedience, expectancy, satisfied wants, etc. Will Mr. Quick answer: "I mean by the truth of this belief, the objective reality of God, which must be other than value in order that it may be of value to us that God is"? Then, let him undertake clearly to define this reality in any other terms than those which do not

connote values either for our human lives or for conscious experience of a non-human type, and I am quite sure he will be unable to do so. Will Mr. Quick's answer be: "By a *true* idea of God, I mean an idea that agrees with or corresponds to what God really is"? Then, my challenge is, to give any significant and verifiable meaning to these terms, "agree with," "correspond to," which does not make them merely names for concrete experiences of realised purposes, satisfied wants, sustained moral endeavours, comforted sorrows, harmonised discords in thoughts or feelings, and the peace of mind that comes when our total experiences are brought into unity. Can Mr. Quick show what other function a true idea of God can have if it be not just this control and guiding of our experiences, to other experiential states, mean goals won, purposes fulfilled, dissentiencies removed and wants satisfied? Is not *this* the real agreement with God which Mr. Quick ought to mean, and is his true idea of God other than an instrument of our thought to effect just this agreement? Now, if this functioning of the idea of God be itself not a value, pray what else can a value be?

Let Mr. Quick or any other objector to pragmatism tell us what there is left to a true idea of God that is not resolvable into value as I have indicated. I think the pragmatist can safely challenge his critic to point out this residuum of meaning that is not value of some sort. What I have maintained concerning the belief in God holds true of the other beliefs cited by Mr. Quick, and I need not discuss them in detail.

The conclusion of the matter is that, in my opinion, Mr. Quick's criticism of the humanist theory of value is not successful. He has not established his proposition, *viz.*, Truth can have value only if truth be other than value. He has not yet shown what that "other than value" is; and until he does so, the humanist theory remains intact.

Nor does it seem to me difficult for the humanist to discriminate a logical value of certain ideas from other values, say æsthetic, ethical or religious values. Ideas which function so as to effect harmonious, coherent and satisfying experiences, or which bring us into such experiential connexion with reality as to remove dissentiencies, discontinuities, and lead to the fulfilment of purposes. *Such ideas* have logical value or truth value. And to define the truth of such ideas in terms of value is by no means to destroy the value of truth as Mr. Quick asserts.

JOHN E. RUSSELL.

VI.—CRITICAL NOTICES.

Science and Religion in Contemporary Philosophy. By ÉMILE BOUTROUX. Translated by JONATHAN NIELD. London: Duckworth & Co., 1909. Pp. xi, 400.

THE reconciliation of science and religion is an endeavour which has suffered from its bad traditions, and a fresh attempt is only too likely to be received with impatience or suspicion. For many of the best minds the problem is no longer alive, the old antitheses having yielded to a critical survey of their own grounds; so that to reinstate the question is apt to suggest the gratuitous resuscitation of defunct presuppositions. But what from one point of view may appear an anachronism, from another is not merely a service but a necessity. A quarrel is not brought to an end without terms, and in philosophy at least terms once concluded must be periodically re-examined. The critical accommodation which saved science and religion from each other may quite well itself contain the elements of a subtler conflict, which can only end in the demand for fresh criticism. In any case no reconciliation is ever complete in the mere withdrawal of contradictions. A peace founded on mutual irrelevancy cannot be a lasting one in a world where unity is fundamental. If anything remains of the essential nature of the once conflicting elements it is necessary that these should be affirmatively related. And this is a demand which calls for perennial readjustment. On such grounds the appearance of a new work on the subject by a writer of M. Boutroux's distinction is significant.

In a short French preface to the English translation (the latter is an honest, if not a striking piece of work; the original appeared in 1908) M. Boutroux formulates in vague though suggestive terms the point of view from which his endeavour is conceived. Science and religion are not to be forced into reconciliation either by a dogmatic *a priori* rationalism or by a radical pragmatism, "which consents to justify the fact only by the fact, and which sees in a true idea nothing but an idea empirically verified". The solution is to consist rather in a distinction of reason in the sense of "positive science, the logical classification of facts realised and observed," and reason in the true sense, a "living reason"—"the spontaneous and perfectible need of harmony and congruence and the effort to realise these conditions in knowledge and life".

Indefinite as this language is, it serves its purpose and indi-

cates the original line of advance which the writer has struck out for himself. Science and religion are to be reconciled, if at all, by means of, and not in spite of reason. At the same time reason is not to dictate the terms of agreement on any preconceptions of her own. It would not be a misrepresentation of M. Boutroux's position to say that whereas the traditional treatment had been to solve the contradiction of religion and science by an appeal either to or against reason, M. Boutroux proposes to use the indisputable truths of science and religion in order to evolve a notion of reason which will be at once genuinely *reasonable* and large enough to include them both. His attitude is alike critical towards a dry intellectualism and an irresponsible pragmatism; but, although the Cartesian starting point is distinctly recognisable, the pragmatic bias is the striking and valuable feature of this book.

It is perhaps unjust to find fault with a writer's deliberate plan; but one cannot avoid a feeling of disappointment that M. Boutroux has chosen to devote so much space to criticism of the systems of others, and has left his own intensive treatment to a single concluding chapter. Criticism is of course a legitimate method of evolving affirmative views, but in this case it throws the work out of scale and gives the impression of a too elaborate preparation and a too summary conclusion. It is in the final chapter that the author is at his best. Here he comes most closely to quarter with his problem, and it is here rather than elsewhere that critical development is wanted.

M. Boutroux takes up in turn the Naturalistic Tendency and the Spiritualistic Tendency. Under the former he first treats of Comte and Positivism, concluding an excellent statement with the view that the proposed synthesis of science and religion in Humanity is frustrated by the limitation of Humanity to a datum. The Positivist principle, the union of the real and the useful, implies a further principle which is incapable of empirical limitation. This leads to a review of Spencer's doctrine of God as the Unknowable. It would be an injustice to the latter doctrine, the writer holds, to give it a purely negative significance. It connects with the evolution of positive religions as conceived by Spencer. These have their relative truth and value, and the Unknowable partakes of this. But agnosticism as a synthesis of knowledge and religion is too subjective and cannot stand the test of the Spencerian principle itself, which is defined as "objectivism". The theories of Comte and Spencer are infected with dualism; and by way of contrast M. Boutroux takes up and examines the professed monism of Haeckel. But this he finds to be based on a dualistic assumption and to involve a distinct change of ground in the transition from positive science to philosophy, and again in the transition from philosophy to religion. From these metaphysical theories, which all consider religion "as a single and universal entity," and end by **opposing** it to science, it is natural to turn to the psychological

and sociological standpoints, which "in the place of religion . . . put religious phenomena," including the latter among all other legitimate data. The sociological and the psychological explanations, however, alike fail to account for the sacred and obligatory, which they are compelled to admit in religious phenomena as such. The ideal content and the scientific form are in this instance incapable of combination.

The Spiritualistic Tendency is examined first as it appears in Ritschlianism, and the weak point of the latter as logically developed by Herrmann is found in a "subjectivity without content". This gives us the reverse side to the criticism of the psychological view. The escape from science into subjectivity only brings us face to face with science again ; for the most hidden emotion of the soul is still a phenomenon and as such necessarily connected with other phenomena according to scientific law. "In a word, it is impossible to discover a retreat where we can feel sure of not being rejoined by science, unless, first of all, we ask ourselves what constitutes science, what is its range, and whether it has limits" (p. 235).

The following chapter is devoted to "Religion and the Limits of Science". The disappearance of scientific dogmatism, that diffidence which springs from the realisation of the relative and hypothetical character of natural law, had given a specious resemblance of freedom to the development of religious truth ; but the elimination of religion is itself a stumbling-block to science. For although the scientist "no longer ventures, as formerly, to enunciate absolute results, unrelated to our means of knowing," this "does not mean that, outside the domain in which science moves, there is another domain—that of the absolute, in which it would be allowable for other disciplines to have full play : on the contrary, it warns human intelligence against venturing into any region that would be inaccessible to science" (p. 257). Moreover "it is not enough to urge that what we wish to maintain, beyond the limits of science, is not another science, but a belief. A belief, from the scientific standpoint, has value only if it is, at one and the same time, based on the observation of facts and adjusted to a meaning that science can accept" (pp. 257-8). M. Boutroux however evinces a strong sympathy for the view which bases an ultimate affinity of religion and science on the constitutive biological conceptions, on teleology and on the ultra-teleological creationist theories of Bergson and Otto. "It seems indisputable that the positive content of fundamental biological concepts is extra-scientific, and, consequently, that these concepts are, scientifically speaking, merely negative concepts." But "it does not follow that science can set aside their positive and subjective significance as useless, chimerical and purely verbal. For, in becoming simply quantitative, exact and objective, these concepts would lose all that characterises them, and renders them helpful to the scientist in his

researches and in his syntheses" (p. 269). Although the limits of science are negative, they "are not negations pure and simple. Much rather are they the indications of a reality, for us transcendent, without which these very limits would be incomprehensible, and which the scientist ought, more or less, to bear in mind if he would succeed in giving to his concepts a concrete meaning that renders them available. Science, therefore, is not absolutely neutral. She reveals a bent; and, if this bent remains very general, it is at least directed towards the same ends that the religious consciousness postulates" (p. 273). But M. Boutroux wisely refuses to rest content with a view of which he acknowledges that "it is not certain . . . that it thoroughly satisfies the convictions of the scientist any more than the convictions of the religious man". The negation of science has assumed a subtler but no less formidable shape in the refusal to define her own ultimate tendencies and conclusions. "If there is one contention upon which science insists as fundamental, it is that she knows not whither she is going. While acknowledging her limits, she does not profess to know anything beyond them; and every attempt to interpret her ignorance, as well as her certainty, arouses her suspicion. Science is essentially jealous of her independence, of her autonomy, of her right to ignore" (p. 274).

The conflict is perpetuated, therefore, in the form of a full demand for autonomy by two independent disciplines, which must yet be brought into "intelligible relations". The reason, M. Boutroux conjectures, may be that our critical solution of the antinomy still falls short of a metaphysical treatment. "It consists in reflecting upon science and upon religion, as they are given us; in asking what are the conditions of existence enjoined on both, and how, being subject to these conditions, they can be reconciled. This method can only, in the end, place religion and philosophy opposite one another, like two powerful rivals who aim at mutual extermination" (pp. 275-276). The suggested remedy is that "instead of restricting ourselves to the consideration of religion and science from without, and to the criticism of principles," we should seek to "understand both of them in their genesis—to give some account of their origin and of the internal principle of their development. For this purpose we should have to make our appeal, no longer only to philosophical criticism, but to philosophy properly so called, to a theory of the first principles of intellectual life and of moral life." It is remarkable that M. Boutroux, ignoring the idealistic and evolutionary view, goes straight to Pragmatism as a matter of course. Is it that he fears, as outraging the fact of religion itself, the Hegelian conclusion that religion is only a phase in the evolution of an ultimate universal metaphysic? In his concluding chapter, at any rate, M. Boutroux is not afraid to admit as a possibility that in a world where the lower forms are transitory "the higher forms and values" may share in the general fate (p. 381), that humanity may be "getting ready to repudiate religion"—but not to make

way for a metaphysical kingdom ; rather "in order to seek through widespread experiences some new guide". This is only one of many passages which suggest that idealism is tacitly set aside because, in the growing pragmatic bias of the writer's intellectualism, the Reason of the Hegelian system would represent that dogmatic predetermination of the issue which the writer is trying to evade.

Two critical chapters, one on *The Philosophy of Action* and one on *William James and Religious Experience*, precede the final conclusions. As was to be expected M. Boutroux finds "abstract pragmatism" an impossible basis for religion, which demands that the deed be connected with a definite belief. And the belief in God in particular, as M. Boutroux insists, is grounded on objective conditions. "To believe in God is, in some way, to believe that God exists independently of our belief in him. Now, no subjective particularity of experience—not even a sense of overplus, of beyond, of illimitableness—can, by itself, guarantee the objectivity, the reality of that experience" (p. 340). "Expel from religion every objective element, and you reduce her to an unintelligibility which will be confounded with the imaginations of the individual, and which will not even be characterised any longer as religion" (pp. 386-387). James's attempt to evade a hopeless subjectivism, through the objective possibilities attributable to the subliminal self, is refuted on the ground that "the subconscious itself only becomes real for consciousness through entering therein" (p. 340), and can thus in itself offer no transition from the subjective to the objective. While admitting that "religious experience neither is nor can be, by itself and separated from the subject, objective," M. Boutroux concludes that "the subject gives it an objective import by means of the belief which he inserts in it" (p. 341). Further, the supra-phenomenal value which (as Höfding shows) is fundamental in religion is thoroughly objective ; and finally that value is genuinely social, and the idea of intrinsic and therefore objective social value is the negation of that individualism which subjectivism carries with it.

In spite of this criticism it is impossible to mistake the frank admiration which is accorded to William James as a thinker and the influence which the subjectivist standpoint has had upon the intellectualist substrata of M. Boutroux's thought. The opposition of science and religion is restated as a conflict of spirits rather than of rational contents. "It would seem that the two powers which actually face one another may be, far less religion and science as doctrines, than the Religious Spirit and the Scientific Spirit. It is of small consequence to the scientist, after all, that religion does not affirm anything in her dogmas which is in harmony with the results of science. These propositions are presented by religion as dogmas, as objects of faith ; they unite intellect and conscience, they express, in short, man's connexion with an order of things inaccessible to our natural knowledge : that suffices to make the

scientist reject not, perhaps, the actual propositions, but the mode of adhesion that the believer gives to them. And the latter, in his turn, if he sees all his beliefs, all his feelings, all his practices explained and even justified by science, is farther than ever from being satisfied, since, thus explained, these phenomena lose the whole of their religious character" (p. 350).

In his examination of what constitutes the scientific and the religious spirit M. Boutroux only carries the same process one step further. "To-day it seems to be quite established that the scientific spirit is not, any more than the principles of science, ready-made and given; but that it is actually formed in proportion as science develops and progresses. On the one hand, it is the intellect which makes science, and the latter is not extracted from things in the same way as an element is extracted from a chemical compound. On the other hand, the product reacts upon the producer; and what we call the categories of the understanding are only the totality of habits which the mind has contracted in striving to assimilate phenomena" (pp. 353-354). This, "mutual action and reaction of mind and of knowledge," or, as it is elsewhere expressed, "the double action of the mind and of phenomena," is the origin of "fact," of law, which is an elaboration of fact, and of unity, which is an ideal reduction of all laws to a single law—derived from "the scientific systematisation of phenomena".

That he leaves such fundamental notions indefinite and undeveloped—even if there is purpose in this—is the regrettable feature of M. Boutroux's book. Mind acting on and being acted upon by its phenomena is a sufficiently clear idea for the purposes of psychology; but M. Boutroux insists that the problem of science and religion must go deeper. Such questions as these will consequently arise: What is this mind which is capable of acting on and being affected by its own *phenomena* or *knowledge*? Is it the noumenal ego or some original principle of synthesis? Or is it the empirical self? If the latter, then from what *original* principle of interaction is it derived? Or is it some unique union, apprehensible only in experience, of an empirical self with an original synthesising activity? Similar questions infect the *knowledge* which is the content of so enigmatic a mind. What *e.g.* are the *facts* from which science starts? No doubt M. Boutroux would consider such questions unfair and based upon a disregard of his own presuppositions. He does not pretend to go beyond the fact as an already constituted universal. "Is not scientific fact itself," he asks, ". . . already a constructed symbol, an imaginary objective equivalent of the original fact?" (p. 356). To this the orthodox idealist can take no exception; but that is because the idealist has explicitly made the universal the presupposition of everything and does not pretend to move a single step without his presupposition. But M. Boutroux's words do not suggest an idealism of this sort. Rather they suggest both here and elsewhere, that he admits in some sense a "raw."

"original" fact prior to those "already constructed symbols," those "imaginary objective equivalents" with which science begins. The question we should like to hear decided is: Are these original facts themselves symbolic? For if so, they too must be mental constructions, and mind must be conceived as having in the first instance nothing to interact with except its own creations. If on the other hand the original facts are genuinely "raw," it is difficult to see how such facts can come to interact with a mind of which we are only told that it interacts with its *knowledge*. In M. Boutroux's language there is an externality of treatment which seems to gloze over a real difficulty. "While the primordial datum was *hardly an impression, an individual feeling*, the work of art which the scientific mind *substitutes* for it is a definite object existing for everybody—a stone that can be used in the building of impersonal science" ¹ (p. 355). This certainly suggests the Kantian distinction of sensation as purely subjective from the schematised category as objective. If this analogy is correct M. Boutroux has been hardly more successful than Kant in showing how the universal or *impersonal* object comes to supersede the elemental *impression* or *individual feeling*.

But once more the reply may be that there is a reason in this want of co-ordination. M. Boutroux's purpose is quite clearly to suggest large and general consonances which in the end, it is hoped, will clear away limiting presuppositions and dispense with the necessity and even the relevancy of meticulous reconciliations. All attempt at the latter is purposely deferred in order to prevent a lapse either into dogmatic rationalism or radical empiricism, and to keep the way open for the desideratum—*viz.*, a conception of reason which, while not perhaps professing to solve all difficulties, is still reason in that it indicates a *reasonable* attitude of inclusion of varying mental disciplines.

If this explanation holds it will clear away likewise the difficulties of M. Boutroux's view of evolution. "Experience . . . has recovered from bygone thinkers a concept that dogmatic metaphysics and science had hoped to eliminate for good and all: *the concept of radical change*,¹ of Evolution—partial or even universal. . . . *Nature evolves, perhaps even fundamentally*" (p. 357). But again: "Although evolution be radical, it is not conceived, on that ground, as arbitrary and as scientifically unknowable" (p. 358). This certainly suggests that the very incompleteness of M. Boutroux's statement is meant to be its *merit*. It is based on the determination to maintain the claims of reason as a progressive possibility of system not yet completely closed in any known categories.

The section on the Religious Spirit reinforces the view here taken. "In order that the scientific spirit may admit the legitimacy of a standpoint in regard to things other than its own, it must not deem

¹ Italics the reviewer's.

itself adequate to actual reason, it must recognise the claims of a more general reason" (p. 360). And then follows the definition: "The scientific reason is reason in so far as it is formed and determined by scientific culture. Reason, taken in its fullest sense, is that outlook upon things which determines, in the human soul, the whole of its relations with them. It is the mode of judging that the mind assumes, in contact both with science and with life, as it gathers and welds together all the luminous and fruitful conceptions which spring from human genius" (p. 360). By the help of "human reason we are able to inquire into the relations between the scientific spirit and the religious spirit without deciding the question in advance". But will "human reason" so understood ever enable us to decide it? Probably the writer is not prepared with a categorical answer; and it would be undue criticism to object that he gives no answer to a question which he does not put. But it may be allowable to ask: has not M. Boutroux gone too far in his attempt to keep "reason" free from *a priori* assumptions; and does his finally expurgated version leave anything of *reason* standing more than a perfectly undefined reference to the possibilities of a perfectly undefined experience? M. Boutroux does not altogether evade the query; but his words bring him dangerously near the brink of radical empiricism, and can, therefore, hardly be considered satisfactory from his own point of view. "Science is within her right in not recognising any other being, any other reality, but that which she comprises within her formulas. But must we infer that reason, henceforward, can make no distinction between being as it is known by science, and being as it is? . . . Universality, necessity and objectivity—the conditions of knowledge—are categories. To identify categories with being is to ascribe to their character of immovable exactness the absolute value which metaphysical systems attribute to being *a priori*. In real science the categories of thought are themselves mutable, seeing that they have to be adapted to facts regarded as a reality which is, *a priori*, distinct and unknowable" (p. 361). *Facts*, it would now appear, have a brute element which cannot be assimilated—their character as "heterogeneous continuity, multiplicity as a whole, which, in order to become an object, is first of all translated by the senses and by the understanding into qualitative discontinuity and numerical multiplicity" (p. 362). On the other hand mind contains an original principle explicable by no mere categories. "The strictly scientific mind—the subject of science, leaves standing, beyond itself, mind in general. In vain does science claim to reduce the mind to the rôle of a mere instrument, of a passive assistant: the mind works on its own account, trying to discover if there is in Nature order, simplicity and harmony—distinctive marks that are clearly much more calculated to bring satisfaction to itself than to express the intrinsic properties of phenomena. And these notions, which direct the investigations of science, are not, in truth, purely intellectual notions: taken in their entirety,

they constitute feelings, æsthetic and moral ends. Thus, feeling itself is linked with the scientific spirit, as exemplified among the scientists in its living and actual reality" (p. 363).

If we are right in attributing to M. Boutroux a distinct pragmatic bias, he would nevertheless maintain that what he is dealing with is never feeling or action as opposed to reason but reason as including feeling and action. For when all has been said there remains a sense in which reason can survive not only as the residual attitude of mind to an aspect of things but as a general attitude towards the whole. And in this sense reason includes religion, just as religion includes the social relation. "The individual, in science, seeks to systematise things from an impersonal standpoint. How could science, which is his working method, forbid him to seek, likewise, to systematise them from the standpoint of the individual himself? This kind of systematisation, indeed, would not admit of objective value, in the meaning that science gives to that phrase; but, if it satisfied feeling, it would respond to human needs which are no less real than the need of bringing things into conformity with one another. . . . Subjective systematisation can thus *imitate*,¹ in its way, the universality of science. The latter disengages the universal from the particular, through abstraction and through reduction. An *analogy*¹ to the universal can be drawn, in the subjective order, from the agreement of individuals, from the harmony which, out of their diversity, forms a sort of unity. It is a systematisation of this kind that religion represents" (p. 365).

M. Boutroux thus establishes religion on (professedly) vague grounds; and he establishes it in spite of, although not (as he tries to show) in genuine opposition to science. The latter is in no way superseded. On the contrary it is a form, and "the most definite form" of the more general reason, of which, of course, it does not exhaust the content. Science remains a datum which cannot be set aside. "In its general conclusions, and especially in its outlook, [it] has become imperative for human reason." But it takes its place alongside other data which are equally imperative, morality and the form of social life.

Religion and science are thus left side by side as coequal data, and the part of reason would seem to be to see that they remain so. That they should ever be completely assimilated is excluded. Whether a faculty dealing with *data* which, *ex hypothesi*, it can never hope completely to assimilate, has any special claim to the name of *reason* is by no means clear. It is unfortunate that M. Boutroux has not raised a question so relevant here—*viz.* that of the relation of the intellectual to the other aspects of the conscious life. The "general" reason involves feeling and action as well as thought proper; and the solution offered suffers from the ambiguity which infects nearly all attempts to bring concrete experience to the rescue of philosophic problems. To say that "feeling is *linked*

¹ Italics the reviewer's.

with the scientific spirit" is to introduce a formula which suits the rationalist and the pragmatist alike. Similarly in pursuing the pragmatic line M. Boutroux argues against the sufficiency of scientific reason in language which, for want of a little clearing up, might easily be turned against him by the abstract rationalist. "Science," he says, "starts from [a] heterogeneous multiplicity, which, for her, represents brute matter, and applies herself to the task of reducing it to a homogeneous continuum. She effects this reduction through expressing qualities by quantities. Now, the expression must, necessarily, preserve a relation to the thing expressed; otherwise it would be worthless. Even though all trace of the discontinuity and of the heterogeneity of things should disappear in our formulæ considered apart, we could not be exempted from recollecting the relation of the formulæ to reality, and from referring to that relation when we had to apply these formulæ, and to appreciate, by means of them, the objects of concrete experience" (pp. 362-363). Yes, the rationalist might retort, but if the expression must bear some relation to the thing expressed, the formula to the "brute" reality of experience, is not this tantamount to saying that the brute reality must fall within the formula, or at least within some formula, and is therefore not brute reality at all? In the very attempt to limit reason we extend it. Of course M. Boutroux would assent to this, but the ambiguity would break out afresh. For the fundamental question remains, whether in the concrete life of spirit we ought to say that experience (including the moral and æsthetic aspects) directs the reason or that reason rationalises experience. There seems to be little difference what we say, for in each case what we have is reason in experience; yet our way of saying it makes all the difference which divides opposing systems.

ARCHIBALD A. BOWMAN.

Étude sur l'Espace et le Temps. Par GEORGES LECHALAS. Paris: Felix Alcan, 1909. Pp. ii, 327.

THE present work is the second edition, revised and enlarged, of a book which appeared in 1895. The additions, mainly in connexion with the discussion of the geometries of the various spaces, have been largely for the purpose of bringing the book into touch with what has been written on the subject during the last few years. The recent work on the logical foundations of mathematics has proved indispensable to an adequate discussion of the philosophical questions relating to space and time; with the result that these questions are taking on almost a mathematical aspect. There is in this a certain danger, of the conclusions reached by purely formal processes being applied without sufficient examination to the world of existence. It is one of the merits of M. Lechalas' work that he is alive to this danger.

The book opens with a short exposition of non-metrical geometries, as a preliminary to the discussion of metrical geometry, with which the author is chiefly concerned. M. Lechalias' interpretation of the various metrical geometries differs from the ordinary interpretation. Starting with the idea of measure (as opposed to M. Couturat's notion of congruence) as fundamental, he places as the basis of metrical geometry (with certain qualifications) the axiom of free mobility, which he considers as the expression of what, following Delboeuf, he calls the isogeneity of space (pp. 32-38). Further, he insists on the separate treatment of the spaces of various dimensions, with a view to distinguishing what he calls the intrinsic and extrinsic properties of a figure. He thus protests (p. 40 n.) against the tendency to define the circle in Euclidean geometry by reference to the sphere. Each space has intrinsic properties which characterise it, and which can be established without reference to a space of a greater number of dimensions, and also properties which are relative to the space in which it is included : *e.g.* those relating to symmetrical figures. This leads to his general view, in which the various spaces are not absolutely separate. One space can be included in another space—thus the different three dimensional spaces can all be included in a Lobatchefskian four dimensional space. M. Lechalias' view and the opposing view are summed up as follows: "Notre conception fondamentale réunit intimement dans une synthèse unique les trois géométries d'Euclide, de Lobatchefsky et de Riemann; elle est toute pénétrée de la distinction des propriétés intrinsèques et des propriétés relatives des êtres géométriques et se refuse à distinguer en soi ce qui jouit des propriétés intrinsèques identiques. C'est ainsi que, les sphères et plans de Riemann ayant exactement la même géométrie propre que les sphères d'Euclide, nous étions portés à les identifier" (p. 102). "Les néo-géomètres," on the other hand, "ont été habitués à concevoir les trois géométries comme absolument distinctes, pouvant présenter sans doute des ressemblances singulières, remarquées dès le début, mais n'en ayant pas moins pour objets des êtres essentiellement différents" (p. 103).

A discussion follows (ch. iii.) of certain objections which have been raised against the possibility of general geometry, and also against M. Lechalias' particular point of view. Chapter iv. deals with the significance for philosophy of general geometry, the essential relativity of space being insisted on.

Time giving cinematics, and the notion of mass giving dynamics, are now introduced (ch. v.). Cinematics is purely rational, time being treated simply as a mathematical variable. And as such, the choice of a system of axes of reference and that of the unit of movement taken as measure of time, are immaterial. When, however, we come to apply our science (as in Astronomy—and M. Lechalias thinks that the question of suitable axes of reference in Astronomy was, throughout history, one of cinematics rather than

of dynamics), the questions of axes and of the unit of time are important, the object being to obtain the simplest description of the motions. The simplest description gives us the most complete knowledge of the movements of the universe. This does not mean that we are seeking the motions of bodies with respect to absolute space (p. 150). Nor is the simplicity merely apparent (pp. 151-152). In fact, if there were no simplicity attainable, we should not be able to conclude that there were laws of nature at all (p. 153). In dynamics we have the same need of suitable axes of reference in simplifying the laws of the universe (p. 162). This however does not mean that we must accept absolute space. Newton's argument in favour of absolute space is discussed, M. Lechalas opposing to it simply the fact that an absolute measure of time is impossible: and he concludes that the mere fact of the simplicity of the laws when motions are referred to one particular system of axes of reference and to one particular unit of time does not enable us to decide whether time and space are absolute or relative. So far as that simplicity is concerned, our choice on the latter question is left open (p. 170).

The preceding discussion is applied (ch. vi.) to the question—which M. Lechalas thinks has a meaning—of whether actual space is Euclidean or not. Cinematics and dynamics in the various non-Euclidean spaces are possible; but in the applied sciences, those descriptions are the simplest which refer the motions either to a Euclidean space, or to a space approximating very closely to Euclidean space. And it is not enough to explain this by saying that the Euclidean geometry is the simplest of all. This of itself would not ensure that the laws of the universe would be simpler in this system than in any other. “Il faut donc reconnaître qu'il existe une *harmonie* entre les réalités physiques et un système spécial de représentation” (p. 185); and hence we can say that the lines which we consider Euclidean straight lines in physics are really Euclidean straight lines, or lines which approximate infinitely closely thereto.

In chapter vii. the results already arrived at are confirmed by a discussion of the special problems (1) of similar worlds, (2) of the reversibility of the material world. As to the first, M. Lechalas notes (p. 205) that it can only be discussed on the mechanical hypothesis—meaning by mechanism, an explanation of all the phenomena of the universe by means of configuration and movement alone (p. 199 n.). The question is very clearly marked off from other questions with which it is easily confused; the result of the discussion being that space and time are essentially relative. This result, it should be noted, depends on the acceptance of the mechanical hypothesis.

The second question is more important for M. Lechalas' theory of time. For his theory of time (identifying, as we shall see, the relation of before and after with that of condition and consequence)

demands that the world shall not be reversible; for in a reversible world there is no clearly marked distinction, apart from the temporal, between cause and effect. Suppose B is the cause of A and the effect of C; then in a reversed world B would be the effect of A and the cause of C. And on M. Lechallas' theory of time, such a reversal must be impossible. The main characteristic of M. Lechallas' discussion is, that he attempts to show that even a mechanism cannot, without great qualification, be regarded as reversible, and that the reversed system would present very marked differences from the original system. Starting with the hypothesis that the reciprocal action of two atoms is independent both of their relative velocity and of the position of other atoms, M. Lechallas shows that even on this hypothesis, a reversed system would present certain peculiar characteristics. Consider, for instance, a case where rocks on a hill are gradually broken up by the action of wind and rain, and the fragments roll down into the valley below. This is an incident characteristic of the present world. And any one who considers the state of affairs in which the reverse was habitually the case cannot fail to come to the conclusion that the reversed state would be, in M. Lechallas' phrase, "*absolument truqué*" (p. 226). We do not agree with M. Lechallas' statement (p. 226) that a reversed system would allow a free being to produce enormous effects by very slight action, as contrasted with the present world, in which, he says, "secondary causes produce secondary effects". The two systems would be alike in that respect. What the discussion comes to is this, that the present world obeys the second law of Thermodynamics, while the reversed world would obey the reverse of that law. Instead of energy being dissipated, it would be stored up. And hence (p. 227) if at any time a state of the universe did occur in which some (but not all) of the phenomena of the universe were reversed, such a state would tend to disappear, on account of its instability *in relation to the present system*. Thus, though a *totally* reversed universe would be stable, and would persist, yet a *partially* reversed universe would soon revert to the present state. We can therefore say, argues M. Lechallas, that a totally reversed universe is infinitely improbable. There is something unsatisfactory about this way of viewing the question. If we admit the hypothesis already stated as to the mutual action of the atoms, then the laws of Thermodynamics become statistic principles merely, and fall out of account. Where we are dealing with motions of atoms *and nothing more* one system is no more absurd than the other.

Thus the action of M. Poincaré, in rejecting the mechanical hypothesis precisely because it is contradictory to the experimentally verified laws of Thermodynamics, seems much more satisfactory. M. Lechallas attempts (pp. 230-232) to reconcile the two, arguing that although, in a mechanism, a reversed state is conceivable, yet it is so improbable, that, in the ordinary course of things, such an event is indefinitely far off, and therefore, for M. Lechallas, who

believes in an end of time, as good as impossible. The laws of Thermodynamics can still be held as experimental laws by believers in the hypothesis of mechanism. And even if a mechanism could be reversed, there are such marked general differences that, in either series, cause and effect are quite clearly distinguishable, the two series being, it would seem, mutually exclusive. It is impossible, M. Lechalas seems to suggest, that Carnot's principle should apply in one part of space and not in another. It applies throughout all space, and will continue to apply for an indefinite length of time. M. Lechalas seems satisfied with that result: but in that case, his theory of time only holds for so long as either Carnot's principle or its opposite does clearly apply. If at any time there should arise in the universe a partially reversed system, so that, at one place, B was the cause of A and the effect of C, and, at another place, the effect of A and the cause of C, that would be a flat contradiction on M. Lechalas' theory of time, and hence his theory of time would have to be abandoned. And therefore, since we do not think that he has satisfactorily proved the impossibility of such a state of affairs, his theory of time seems applicable only temporarily; it is thus not true universally, and therefore not an adequate theory, so long as it is based on a mechanical description of the universe. M. Lechalas proceeds, that in psychic experience the idea of reversibility is ridiculous. And we agree; but he is precluded from falling back on psychic experience in his account of time by his very theory of time.

In chapter viii. M. Lechalas considers the questions of infinite number and of continuity, proceeding throughout on the maxim that number (in so far as realised number, *i.e.*, number of things, or events, or states, or points, in the actual world, is concerned) means finite number. He distinguishes abstract from realised number, and allows the mathematician to define a group as infinite when a unique and reciprocal correspondence can be established between the members of the whole and of a part, provided he confines this definition to abstract number. There is no contradiction in the conception of such groups, but there is contradiction in their realisation. This M. Lechalas endeavours to prove (p. 236); but his proof is merely the assertion, under a slightly different form, of the principle that all realised groups are groups which can be *counted* by the ordinary process. And it is precisely that which the mathematicians deny. The succeeding discussion does not add much to this assertion; but it brings out the contradiction in the attitude of those who, while rejecting infinite realised number, still attempt to accept real continuity.

M. Lechalas proceeds to deny the possibility of a real continuum, and hence concludes that both space and time are discontinuous. A discussion of Cantor's theory of the continuum, and of the arguments of Zeno, follows, enabling M. Lechalas to explain his theory of the discontinuity of space and time, and to defend it against

objections. It seems to us that his attitude is only possible because he implicitly regards the discontinuity in each case as falling within a continuity.

We note M. Lechalas' definition of movement (p. 266): "A body is at rest or in motion, according as it has or has not been previously in the same space".

In chapter ix. the question of the nature of time is discussed. M. Lechalas confesses his inability to reduce space relations to anything more fundamental, but endeavours to do this of time relations (p. 275). He follows the exposition of the Spanish philosopher Balmès (1810-1848), whose work is a development of remarks made by Kant. Time, Kant remarks, is simply the successive existence and non-existence of the determinations of substance. This is developed by Balmès. Time is the relation between being and non-being. The existence of two things which exclude each other implies succession. To measure time, is simply to count the exclusions (p. 283). This theory has, according to M. Lechalas (p. 287), two faults; for it affords no means of distinguishing before and after, and it gives no determinate principle of succession. An adequate principle must determine not only the succession, but also the order of succession. Such a principle M. Lechalas finds in the conception of occasional cause. "Dans un groupe de faits, ceux qui sont la condition des autres sont dits les précéder, et les seconds suivent les premiers, sans que ces expressions signifient autre chose que cette relation de *causalité occasionnelle*, pour employer le langage de Malebranche" (p. 289). The states of the universe are determined one by the other; for contingent beings, the determining states appear as prior, the determined states, as posterior. And the question of reversibility has already been settled; thus the relation of cause to effect is unique, and hence can serve to define temporal succession. To the objection that some causes are simultaneous with their effects, M. Lechalas replies by reducing them either to succession or to reciprocal action (p. 293). The notion is completed by a reference to God, which we may perhaps express as follows. For God, there is no time; but all things are logically connected. These things fall into two groups. Either A implies B and B implies A, or A implies B but B does not imply A. To us, things appear under a temporal relation; in the first case A and B are simultaneous, and in the second case, A precedes B. "On peut hardiment accepter l'affirmation que, pour Dieu, il n'y a ni passé ni futur, mais un enchaînement de choses conditionnées les unes par les autres. Ainsi se trouve conservée une distinction logique et non temporelle entre l'antécédent et le conséquent, distinction connue de Dieu; à celle-ci, pour les êtres sensibles, s'ajoute naturellement une modification étrangère à l'être immuable, et l'on peut, en toute vérité, dire avec Kant que le temps est une forme de notre sensibilité, mais une forme qui recouvre une distinction rationnelle" (p. 302).

Various questions as to the possibility of an end in time are then discussed; and the book ends with an account of the measurement of time, which serves to confirm the theory.

LEONARD J. RUSSELL.

Theories of Knowledge: Absolutism, Pragmatism, Realism. By
LESLIE J. WALKER, S.J., sometime Professor of Philosophy at
Stonyhurst College. Longmans, Green, & Co., 1910. Pp.
xxxix, 696.

THIS latest addition to the Stonyhurst Philosophical Series is a refreshing proof that a living interest in philosophy is by no means as extinct in the Church of Rome as in so many of the others, and should certainly redound to the honour of the Society of Jesus. For it embodies a systematic and sustained attempt on the part of Scholastic philosophy to intervene as a mediator in the controversies of modern epistemology, and is a well-planned and effective argument to prove that Scholastic realism should be regarded as the higher synthesis of Absolutism and Pragmatism. Father Walker has spared no pains either in the construction or in the presentation of his case. He has provided his scholarly book with a full index and an excellent analysis of the argument, and writes throughout lucidly and forcibly. He has, moreover, read extensively and thoroughly studied his documents, so that he can always quote chapter and verse for his judgments. The result is that he has compiled a mass of valuable material, which can be profitably consulted by all who are interested in modern philosophy, and produced a work so convenient and characteristic that all parties can learn from it.

The general contention he seeks to establish is that there is no hope for philosophy save in a return to the Scholasticism which is based on Aristotle and common-sense. For the sharply antithetical theories of knowledge which are put forward by Absolutism and Pragmatism agree in this that they inevitably conduct to scepticism, and are alike outrages on the "common-sense belief in objective reality and in the existence of a world that is independent of the thinking self" (p. 678). In the pursuit of this aim Father Walker displays much learning and logical acumen, as well as a fine sense of the vital importance of philosophy.

But it is evident that his course cannot be everywhere plain sailing. In dealing with Absolutism, he is confronted with fully elaborated systems of great antiquity, the logical characteristics of which are fully understood and admitted by their representatives. It is easy therefore to repeat and enforce the old and familiar criticisms, especially as through the mouth of its representatives, Messrs. Joachim and Bradley, Absolutism has of late admitted its sceptical ending, or taken refuge in a personal 'instinct,' which is willing to regard its fundamental doctrine as 'inexplicable,' to

'swallow' final 'difficulties' to an unlimited extent, and to deny that 'absolute' truth is attainable by man.¹ Hence, though curiously enough Father Walker does not dwell on the incurably sceptical implications of the Bradleyan theory that judgment must be self-contradictory to be true and even then cannot be true because it cannot be all-embracing, nor appear to know the unanswerable criticisms which Captain H. V. Knox has passed upon these doctrines,² he has here an easy task.

But the case is different when he comes to Pragmatism. Pragmatism does not as yet exist in any completely systematic and authoritative form, and is still growing rapidly. It is a method and a tendency rather than a body of dogma. Consequently it cannot as a whole be rendered responsible for the scattered utterances of any of its exponents, and still less for the sceptical inferences which they seem to convey to the mind of a critic. Moreover pragmatists are agreed in denying that their method is sceptical in any offensive sense, though they recognise that to a mind with certain preconceptions it may easily appear so. Now, some of these preconceptions may certainly be traced in Father Walker. The almost complete absence of a theory of knowledge has hitherto been one of the most obvious defects of Scholastic philosophy. Hence a natural tendency to take assertions in a metaphysical sense and to approach the theory of knowledge through the theory of being, a tendency reinforced by the habits of ordinary life, which are not critical of ordinary experience. But this attitude enormously increases the difficulty of apprehending the real inwardness of Pragmatism, which is fundamentally a theory of knowledge, and not like Absolutism a metaphysic, and is always and throughout essentially critical of men's natural propensity towards metaphysics. The result is that though Father Walker has evidently aimed at giving a complete conspectus of the whole movement, including therein much valuable information about the French and German writers on scientific method, Poincaré, Le Roy, Duhem, Rey, Mach, Ostwald and Simmel, who are far too little known to English philosophers, and has no difficulty in showing that most of the popular criticisms are groundless, his criticism on the whole misses fire. In spite of many acute remarks on points of detail, he seems to get the wrong perspective. Perhaps this was inevitable in a criticism which begins by arguing that the pragmatic theory of knowledge must be developed into an (untenable) 'metaphysic of pure experience,' and comes to the pragmatist theory of truth at the end instead of at the beginning.

Instead, however, of following Father Walker into the *minutiæ* of his criticisms, I will comment only on three points: (1) The charge of scepticism, (2) the charge of subjectivism, and (3) the

¹ MIND, N.S., No. 74, pp. 171, 154, 173, 156, 158.

² *Ibid.*, No. 54; *Quarterly Review*, No. 419.

ability of realism to consider the problems Pragmatism has set itself to solve.

(1) Father Walker interprets the demand for the critical testing of truth-claims and the continuous formation of new 'truths' as meaning that no firm foundation can ever be found for truth, and as therefore essentially sceptical. Pragmatism is supposed to begin by doubting everything and to end by affirming nothing *for certain*. It does not yield certainty nor 'knowledge' in the 'strict' sense to which Father Walker has been accustomed, nor conceive these terms in the 'ordinary' way (pp. 329, 559, 573, 581, 583, 588, 601). Now to the pragmatist all this appears part of his anti-scepticism, of his reply to the scepticism to which the demand for absolute truth has manifestly conducted. 'Knowledge' in the 'strict' sense has turned out to be unattainable; wherefore knowledge must be conceived in the human sense, in which not even the most extreme rationalist can deny it, because he must affirm it practically in order to live. 'Truths' must be tested just because they cannot be trusted; but the lack of fixed foundations is no drawback, if it means that the ground our knowledge traverses as it grows is ever growing firmer. The only certainty we need, therefore, is certainty enough to go on with. But there is no denial of truth in this, if the 'truth' of an assertion *means* its relevance and adequacy to an occasion, nor is it strange that Pragmatism should entail innovation in the 'ordinary' cognitive phraseology, seeing that it is precisely this ordinary usage which has broken down.

(2) By 'subjectivism' Father Walker does not mean solipsism; he means that humanism makes truth "so human that it ceases to be real knowledge" (p. 572). For it only professes to give us "knowledge of reality *as modified by our cognitive functioning, our purposes and needs,*" and so "*truth for us is not objective in the ordinary sense of that term*" (p. 577). True once more; only what the pragmatist doubts is whether the ordinary sense is tenable, and whether the knowledge of reality he provides is not just that which we require. And if Father Walker insists (p. 587) that this is "not the truth which we, as rational human beings, yearn for and strive to obtain," he will point out that this plea uses the pragmatic criterion of truth in an extreme, and possibly untenable, form. He will marvel, moreover, why it should be assumed that because anything is 'subjective' it should be incapable of being 'objective' as well, and repudiate the attribution to him of the Bradleyan notion that the selection essential to all our cognitive operations *mutilates* (pp. 580, 599, 669) rather than *constitutes* the 'reality' of 'objects'.¹

(3) However it cannot in the end be disputed that if Father Walker is right in thinking that common-sense or Scholastic Realism provides an adequate theory of knowledge and solves the perplexing problems to which Pragmatism insists on calling philo-

¹ Cf. MIND, No. 72, p. 573.

sophic attention, he must be held to have proved his case. For the very fact that Realism seems to involve so little disturbance of our common-sense habits gives it an enormous pragmatic advantage. Let us examine therefore these contentions.

The problems which have completely wrecked the absolutist theory of knowledge are (1) the existence of error, (2) the impossibility of devising a tenable theory of truth, (3) the impossibility of suggesting any means of discriminating between truth and error, even in idea. Absolutism has had to admit that its supercelestial ideal of knowledge excludes error so thoroughly that its terrestrial occurrence is an insoluble mystery. It has tried a number of theories of truth and found unanswerable objections to each. It has oscillated helplessly between a view of truth which formally included the false in the 'true' and one which rendered the existence of the false ideally impossible, without in either case accounting for our discrimination between them. In other words it has utterly failed alike to grasp the theory, and to guide the practice, of human thinking. And the sole reason why this has not so far become apparent to every one has been the highly protective obscurity of language in which it has enveloped itself.

Scholastic Realism on the other hand, as represented by Father Walker, gives answers which are lacking neither in clearness nor in applicability to at least certain aspects of human experience. (1) It admits the existence of error, but pleads that we are not ordinarily deceived, and that what we need is criteria of error rather than of truth. (2) It boldly adheres to the correspondence-with-reality view of truth, the venerable *adæquatio mentis et rei*. And (3) it looks to an objective 'evidence' to distinguish the true from the false. Nor can it be denied that for ordinary purposes these answers are simple and valid enough; the question is whether they suffice also for the purposes of a scientific theory of knowledge.

(1) Practically, no doubt, we may trust our established modes of perception and reasoning, and must not assume that "our thoughts as a rule go wrong" (p. 623). Error is relatively rare. Unfortunately, however, it haunts the growing-point of every science, and besets the answer to every real question and the alternative to every real decision. Our habitual cognitions may be trusted precisely because they are the results of much selection and of the elimination of many errors, and *ex hypothesis* wherever *new* problems crop up and *new* questions are mooted trustworthy solutions are not to be had. For the true have *not yet* been discriminated from the false. We need to take up, therefore, a critical attitude towards the 'truths' that offer themselves, and to bear in mind that they have not yet been fully validated and that the records of good service alone can secure their place in our affections. It follows that *all* truths must theoretically be conceived as holding their places by this tenure, and as essentially corrigible and improvable, though this does *not* mean that they are practically to be called in ques-

tion unless their failure forces us to reconsider them. This is briefly the problem of truth and error. Realism seems neither to have perceived it nor to provide any method for regulating the growth of a science. The pragmatic method stands alone in its effort to describe the process by which knowledge is in point of fact advanced.

(2) Father Walker is a staunch upholder of the 'correspondence' theory of truth. But unfortunately he does not define what he means either by it or by the 'independence' of reality. Nor though he protests against the 'immanence' of 'objects' in experience and calls it idealistic,¹ does he explain how precisely he conceives the transcendence of the Real. It seems just possible that he only means a 'correspondence' between perception and thought, or between one man's thought and another man's, in which case he would, of course, contend for nothing that Pragmatism had ever denied. Hence it is difficult to say how far his view is obnoxious to the criticism which pragmatists have launched against the correspondence theory. At any rate he does not answer it. Nor does he say how the existence of the correspondence is to be determined. He only says (p. 623) it can be established without comparison of copy and original "provided we can answer the question: 'When has thought been determined by the original and when has it not?'" Aye, *when!*

(3) Self-evidence, therefore, must be appealed to. It is *objective* "when we believe that the object and not any other cause has determined the content of our thought" (p. 29). But does not 'when we believe' smack of subjectivity? And in any case how are we to discriminate between genuine and spurious 'evidence'? Self-evidence seems essentially a psychological criterion, and as variable and fallible as the rest of our instincts. So long as there are false and insane intuitions, how can a theory of knowledge be based on intuition?

Here again, the humanist theory of knowledge is meeting a difficulty which the others have not yet perceived. And surely it is a question which cannot be burked. How, in cases of real doubt, do we in actual fact sift the true from the false, seeing that we can find neither a formal nor an infallible criterion of truth? The question is so important, and the answer is so subtle, that they might well portend a revolution in philosophy. And at times, at least, Father Walker seems to catch a glimpse of this, and I cannot do better than conclude this review with a fine saying on page 650: "Precisely because thought is so subtle and intricate and personal, the human mind is capable of attaining truth, and yet incapable of

¹ It is surely a mistake to treat Pragmatism as such as idealistic. It only implies a correlation between the 'subject' and the 'object' in the cognitive process, and asserts nothing about the metaphysical nature of either of them. The question whether ultimate reality is idealistic or realistic ought not to be raised until we have succeeded in determining how we know any reality at all.

proving the truth of what it holds by formal arguments to another who fails to appreciate the concrete evidence upon which that truth is based". *Je ne demande pas mieux, ni plus.* Personality is the source both of truth and of error, of insight and of blindness, and of all difference of opinion; until these facts are recognised there can be no theory of human knowledge.

F. C. S. SCHILLER.

Lectures on the Elementary Psychology of Feeling and Attention.

By E. B. TITCHENER. New York: The Macmillan Company, 1908. Pp. x, 404. 6s. net.

EVERY serious student of psychology will welcome this useful book. It is not so discursive as many other books on the same subject; its discussions are clear and exhaustive and the references to the literature are as complete as usual in a work by Titchener. Yet in spite of continual appeal to fact, the author leans very much towards systematisation. Sensationalism and its system, on the one hand, absorb his affections, while his attention is very largely engaged with Wundt and his system. Titchener says of himself that, in certain cases, he always wants to trace the motive. If a critic may do so too, perhaps the motive of this book may be found in a desire to reply in full to Wundt. But trying to convince authoritativeness by the exercise of a plaintive reasonableness is trying the impossible (*v. p.* 290 and chap. iv.). In this particular case, many have tried it—in vain. Authority is not defeated by internal sedition.

The first half of the book makes somewhat difficult reading. It opens with a discussion of sensation and its attributes and passes on to the distinction of these from those of affection or feeling. Sensation is defined as any sense-process that cannot be further analysed by introspection. Attributes of sensations fulfil the two conditions of inseparability and independent variability, although the latter test must be applied with caution. They are well classed by Müller as those of intensive and qualitative change. The former class includes degree, duration, extension and clearness, while the latter is often really a complex of qualitative attributes. Titchener thinks (in spite of his definition of sensation) that the simplicity of the qualitative attribute has often been taken in too dogmatic a spirit. Intensity, on the other hand, should be taken as a real and distinguishable attribute, because we are able in some measure to ignore the concomitant change of quality and to direct our attention primarily towards intensity as such or towards extent or duration or their changes. However logical it would be to recognise every change in sensation as a change in quality, it would be very unpractical. There is no need to distinguish things as radically different till their difference is much more striking than their likeness. Titchener attributes extension to the four cutaneous sensa-

tions, to organic pains and to a variety of organic and kinæsthetic sensations. The discussion of this point is, however, rather incomplete. One would have expected to find some attempt made to trace extension and all sensational attributes throughout all the sensations. For Titchener's whole position turns largely on this attribute of extent. Sensations have quality, intensity, duration, clearness and extension. Feelings have quality, intensity, duration, no clearness and no extension. The possibility of absence of clearness being an attribute of a mental element, as Titchener means it, is highly debatable. Unless, therefore, he can lead us to agree that all sensations have extension, then we are bound to feel rather uncertain about his insistence on the principle that psychological distinctions must be purely psychological and not at all psychophysical. Perhaps, indeed, the emphasis in his definition of sensation is to be put on the word 'sense-process,' in which case the definition would be based, not on introspection alone, but on psychophysics as well. This would be much clearer if Titchener would openly recognise a number of other mental elements besides sensation and affection.

What are the attributes or criteria of affection? Six possibilities are discussed and four are rejected. These are the distinction of sensation as objective from affection as subjective; distinction by localisation; distinction by relative strength of direct and indirect excitation, wherein the indirect sensation or representation is seen to be weaker than the direct, while the indirect affection can withstand the direct attack of pleasantness or unpleasantness; and finally distinction by the process of adaptation, which is really found in both sensation and affection. On the other hand Titchener accepts the view that 'unpleasantness is the maximal opposite of pleasantness and that all psychological contrast is derived from feeling. Such a view, however, is certainly not intelligible, strictly, but can only be the result of an argument of exclusion, aiming at finding the meaning of 'opposition'. If we add to this, that mixed feelings are held to be actual, we may well think that the attribute of opposition is merely a definition by convention, unless Titchener is endowed with some peculiar sense of the opposition of feelings to one another. The sixth criterion of affection, its lack of clearness, is the main support of their distinction. We cannot attend to feelings.

In the last chapter of the book Titchener sketches a theory of feeling. Mind-stuff is held to be ultimately homogeneous, and affection is therefore probably sensation that might under favourable circumstances have become sensation, reporting the tone of the great bodily systems (that actually lack specialised organs of sense), had development been carried further. This would explain the lack of the attribute of clearness. It is surely reasonable to reply that this would only explain the lack of a high degree of clearness. Besides it is hard to understand what is meant by a mental state

that lacks clearness. If clearness is an inseparable attribute of sensation, so that it would cease to exist had it not some clearness, it is not quite clear how there can be a mental element which can exist without clearness, just as little as there could be one without duration; this is the more so if we remember that feelings have quality, intensity and duration, and that the only other attribute that might distinguish them from the other kind of mental element—extension—is not obviously universal. Are our feelings so unclear? We certainly cannot hold them before our attention, for the obvious reason that in so doing we put the force out that rouses them. Are they for that reason any less clear than the idea aroused by the word 'force' or the like when you set out to watch which idea is aroused by that word, as in some association-experiments? And are those organic sensations that fuse with feelings and are confessedly so like them, that some persons cannot or will not distinguish them from one another, so clearly marked with the attribute of clearness? It is a proper aim of psychology to distinguish on the basis of introspection alone. There is, however, obviously some difficulty in distinguishing affection and sensation from one another, or psychologists would not attempt to classify them together. It is possible that our natural distinction of them is a recognition of the difference in their quality bound to a knowledge of their psychophysical conditions. Besides, if mind-stuff is homogeneous throughout, why should the number of its attributes vary?

Chapters iii. and iv. are devoted to acute and detailed criticism of Stumpf's classification of the feelings as sensations and to Wundt's tridimensional theory of feeling, respectively. Stumpf's essay is held to contain no stronger evidence than the principle of economy and psychophysical possibility, while Wundt is rejected on the appeal (1) to experimental introspection and (2) to the parallelism of feeling and sensation. As has already been indicated in reference to clearness, the present chaotic position of the former is not relieved by Titchener's treatment of the attribute of clearness, while the latter embodies again the crux of extension. If feeling is to run parallel to the qualitative intensive and temporal relations of conscious elements, as Wundt intends, it is hardly allowable to claim against him a parallel to the extent of conscious contents till the attribute of extension has been shown to be universal (v. pp. 143-144).

The second half of the book deals with attention, and gives a useful and clear summary of the results of study in the form of a number of laws. The preliminary treatment of the problem of introspection is however rather superficial. It is not now so easy as it was to believe that the ghost is laid. Titchener will have it that there is no difference between inspection and introspection, and that attention in psychology and attention in natural science are of the same nature and obey the same laws. Clearness is in all theories obviously the centre of the problem of attention. The con-

ditions of maximal clearness are well known; but it is above all necessary to study clearness of content as such and especially as an attribute of sensation. Such a study arrives at the following expressions: (1) Clearness is an attribute of sensation, for it is inseparable and also according to later evidence to some extent interdependently variable with intensity of sensation. (2) There are two main levels of attention, each of which, especially the higher, is itself uneven. (3) Attention is inert and needs time to accommodate itself after change. This law applies rather to the conditions of clearness than to clearness itself. (4) The stimulus for which we are prepared has prior and quicker entry. (5) The range of attention is limited. (6) Attention is unstable and fluctuates periodically. This law is however more debatable now than it recently was. The seventh law should relate to the measurement of clearness, but no methods have yet been found to provide a sure basis for it. If it be allowed that law 4 like law 3 applies rather to the conditions of attention than to clearness itself, we find only two laws (Nos. 2 and 5) which relate exclusively to clearness. As against Titchener, the view might very well be held that it is more important to put all the emphasis on the *conditions* of maximal clearness. Perhaps the discovery of attention, far from being one of the virtues of modern experimental psychology (p. 172 f.), is really one of its misdeeds. May not even a large part of the fluidity of the literature of attention be due to the fact that attention has so often been treated as something which behaved, instead of as an attribute of mental states (to accept Titchener's suggestion for the moment) whose changes were dependent upon certain conditions? It is, for example, not clear that there are always two levels of clearness, though there are many reasons why two should be the rule and one the rare exception.

In the last chapter Titchener concentrates his attention upon affection. It must have elemental rank in consciousness, co-ordinate with sensation, and is distinguished primarily by the lack of the attribute of clearness. "All sensations may become clear, while an affection—however prolonged or intensive—is never clear, never comes to the focus of attention" (p. 289). A theory of feeling is sketched and a number of interesting questions relative to the connexion between attention and feeling are raised. Curiously enough, however, no direct mention is made throughout the book of the reference of feelings to their object or to the experiences which evoked them. In discussing whether feelings are subjective and sensations objective, we find mention on page 41 of the possibility that affection may "never appear alone, but always and of necessity as the concomitant of some sensation". Külpe and Ladd are cited in disagreement with this, the latter of whom says that "feelings may assume either one of three possible time-relations toward the *sensations and ideas by which we classify them*"—before, with, or after. If this is not an introspection distorted beyond recognition

by the demands of sensationalistic theory, which has no place for the reference of feelings, one may well ask, how an observer could be reasonably sure that a feeling existed without or before *its* sensation, if not by the fact that the reference of feeling to something is for once observed to be absent. Otherwise the possibility of a one-level attention is realised, for a feeling does not ordinarily occupy the mind to the exclusion of all sensation.

The validity of Titchener's whole position, as here presented, turns, therefore, upon the attribute of extent, the *total* absence of a clearness attribute in affection and the reference of feelings beyond themselves. A recognition of the latter would open up wide vistas and would also doubtless greatly increase the complexity of the problems raised and discussed by Titchener.

The book is provided with copious notes and remarks, gathered together at the end of the volume, as well as with two good indexes.

H. J. W.

Old Criticism and New Pragmatism. By J. M. O'SULLIVAN, D.Phil. (Heidelberg). Dublin: Gill & Son, 1909. Pp. xiii, 317. Price 7s. 6d.

THIS book contains four essays, which are described in the Preface as "an attempt to exhibit, in part at least, the Kantian system as an immanent philosophical criticism of first principles; and viewing the Critical Philosophy and Pragmatism from the standpoint of a different school, to lay bare the connexion which exists between their theories of Truth in consequence of their attachment to Radical Empiricism". We are not told what this 'different school' is, but the general spirit of the work suggests that it represents that type of thought—of which Windelband is the leading exponent—which devotes itself mainly to historical exposition and criticism without positive construction, and expresses occasionally a desire, hitherto unrealised, for a rational, non-pragmatic philosophy of values. The author excels in exposition and analysis; he shows, on the whole, a very just appreciation of the systems with which he deals (Kant's, Hegel's, and Pragmatism), and many of his criticisms, especially those on Kant and the pragmatists, are remarkably brilliant.

The first essay occupies more than half the book—"A comparison of the methods of Kant and Hegel, illustrated by their treatment of the Category of Quantity". It was published first as a monograph of the *Kant-Studien*. Its position in reference to the rest of the book is not obvious; it is the only part dealing with Hegel, and the relation of Hegel's method to the subsequent criticisms of Kant and pragmatism is not presented definitely. There is thus less system in the work, taken as a whole, than one would expect from a student of Hegel, whose method is the very

life-breath of his philosophy. The essay referred to contains a good exposition of the methods of Kant and Hegel, and of their treatment of Quantity; they are carefully compared and contrasted with each other, but it is somewhat unsatisfying to find that no exact balance is taken, nor is it even possible to determine whether the author wishes to stultify both by playing them off against each other. The title of the essay, indeed, but not the stated purpose of the whole book, justifies this attitude of withholding assent.

Dr. O'Sullivan does not appear to fully appreciate the real advance made by Hegel in the philosophy of mathematics or his defects. The superiority of Hegel lies in this, that he recognised, in some degree, that the conceptions of mathematics (number, limit, etc.) cannot be given in immediate intuition; particular images can only suggest or symbolise these conceptions. This was Plato's doctrine as expressed in the *Phædo* and the *Republic*. And the conceptual nature of mathematics does not reduce it to romantic mysticism, for it is the source, not only of its many fantastic and apparently useless developments, but also of its *practical utility*, which—e.g. in engineering, architecture, life-insurance, land-surveying and navigation—arises solely from the fact that it extends our knowledge beyond the immediate data of sense. But Hegel did not consistently work out the conceptual view of mathematics; he falls back—as Dr. O'Sullivan recognises—on the Kantian view that number is simply the psychological process of counting. One consequence is that he fails to apprehend the meaning of infinite number, and his philosophy is therefore useless when (for example) the question is raised, how are irrational numbers (including transcendental numbers like $\log x$, $\sin x$, etc., and all sums of infinite converging series) to be compared with each other and with rationals as regards magnitude or order? In dealing with the mathematical Antinomies, both Kant and Hegel erred in confounding the possibility of actualisation with the possibility of intuition; only subjective idealism is justified in identifying these, and there is no contradiction so long as the individual does not claim to be able to grasp everything actual in a single intuition. Philosophically, we are not bound to admit the actuality of infinite number, but it is practically inevitable in mathematics; and if the philosopher refuses to accept it he is logically driven to the alternative (subjective idealism being set aside) that Space is closed—and therefore non-Euclidean, since all straight lines return to themselves—and that Time, with its events, consists of a series of juxta-posed instants having a first and a last member. These alternatives may be the right ones, but they are quite arbitrary, less satisfying, and perhaps less simple than the normal views.

Hegel, of course, could not be expected to make correct criticisms of mathematical conceptions, which though implicit in Euclid's geometry, were not made explicit by mathematicians until the latter half of the nineteenth century. Subsequent analysis suggests that

Hegel's defects were due to treating mathematics under the head of mere abstract Quality and Quantity (the separation of quality from determinate being), whereas it should have been treated in connexion with the categories of Relation and Correlation, which come much later in the *Logic* (Wallace's Translation, p. 245). The field in mathematics is always a complex of inter-related entities—ideal or actual—and the purpose of the science is to give us a conceptual knowledge of such fields by the simplest possible definitions. Number is incomprehensible without the conceptions of relations and complexes of relata.

Dr. O'Sullivan's criticism of Kant's theory of Causation is very good, though I think he does not sufficiently emphasise the fact that Kant's doctrine fails to account for the 'sense' or 'direction' of Time.¹ Dr. O'Sullivan points out that Kant adopts the 'streak' view of causality, which assumes that the cause of an isolated event is to be found in another isolated event. He shows that this view is untenable, and that the proof of the causal axiom involves the idea of the world as a systematic totality; he then points out—a keen criticism—that Kant, in the *Dialectic*, asserts that the world as a whole cannot be an object of experience, and therefore the 'systematic totality' is meaningless.

There are some valuable criticisms of pragmatism and its relation to Kant. I may remark, *en passant*, that it seems to be rather futile to criticise this doctrine, because the pragmatists are indifferent to logical consistency, and claim the right to embody all criticisms into their philosophy, in unconscious imitation of their *bête-noir*, Hegel, who regarded contradiction as a road to higher truth. Dr. O'Sullivan holds that pragmatism, from a certain point of view, is "the logical development of the spirit of the *Critique of Pure Reason*," i.e., presumably, of the subjective idealism latent in Kant's system. Indeed, quite apart from subjective idealism the transcendental method of Kant might hastily be interpreted as pragmatic. But there is a fine difference; Kant holds that the actual successful working of our thinking experience presupposes the *a priori* Categories, Axioms and Postulates, whereas the pragmatist regards these as devices invented by the thinking subject to *make* this experience work successfully. Dr. O'Sullivan concludes that pragmatism on its own theory of truth is false—it will not 'work,' because it is unable to reconcile its two principles; the one asserting that satisfaction is the ultimate test of truth, the other denying that immediate satisfaction is the truth of a judgment. (Ethical hedonism has a similar difficulty to cope with.) He further urges that the pragmatist "has yielded to the passion for uniformity which he throws in the face of the absolutist"; in insisting that logical necessity is always the same as psychological necessity pragmatism has "attempted to force into a Procrustean bed

¹ See *The Meaning of the Time-Direction*, MIND, vol. xiv., N.S., No. 53 (1905).

all forms of general truth," and this is a complete abandonment of its fundamental position. To Dr. O'Sullivan's subtle criticisms one might add—if it is an addition—that pragmatism is inconsistent for another reason, *viz.*, that it is most unsatisfactory to the searcher after truth to presuppose that he is only searching for a form of mental satisfaction. The satisfaction of the intellect arises just from the conviction that it is grasping objective truths which were true before they were grasped.

Dr. O'Sullivan, modestly enough, disclaims any attempt to give an adequate valuation of either Criticism or Pragmatism. He recognises—as all candid thinkers will—the important work done by the latter in drawing attention to "the dynamical nature of scientific truth and the postulatory character of many so-called Axioms". The dynamical view, it may be noticed, is an essential part of Hegel's system, which is quite wrongly identified by many with a static absolutism. Pragmatism would doubtless have appeared to Hegel as a necessary but incomplete 'moment' in the dialectic movement of thought, the negative in relation to the positive of static absolutism. The author is by no means out of sympathy with pragmatism, but his sympathy is mainly critical. "We want a Logic of Values, but this is precisely what pragmatism seems unable to give us. But even had we this Logic, even could we reduce all the different values to one common measure, and so estimate their claims; yet the difficulty of applying the canon thus got would be practically insuperable, it would not work." This is no doubt true; but the task of Philosophy is not the impossible one of providing ethical machines that every one can use; it is rather to make explicit the actual movement of thought, or, it may be, to direct that movement by appealing, at first hand, to the intellectual minority. Therefore I hope that Dr. O'Sullivan will make an attempt to formulate a positive rational philosophy of values.

R. A. P. ROGERS.

La Théorie Platonicienne des Idées et des Nombres d'après Aristote. Étude Historique et Critique. Par LÉON ROBIN. Paris: Felix Alcan. Pp. 702. Price 12 fr. 50.

M. ROBIN has set himself the task of discovering the true nature of Platonism by studying Greek thinkers and them alone. With them as guides, he thinks, at least there is not the danger of transforming Plato into a teacher of modern philosophy—a danger which nowadays is not altogether illusory. He therefore proposes to study Platonism as expounded by Aristotle and the Peripatetics, in the Academy and amongst the Neo-Platonists, to seek to discover by a critical investigation of their accounts the nature of Plato's own teaching as opposed to subsequent additions made from a dogmatic or polemical point of view, and to estimate the worth of

these additions and criticisms from data supplied by the critics themselves. Finally he hopes to compare the results of these investigations with the doctrines of the Platonic dialogues. But for the present he is but at the beginning of this long journey, and there he finds himself confronted with the laborious task of discovering the Platonism described and criticised by Aristotle. That task is accomplished in this elaborate volume. No references to Plato's own writings are admitted. We have simply the testimony of Aristotle interpreted with the help of commentators ancient and modern. Consequently this work itself fills the place rather of a commentary on certain parts of Aristotle's writings, notably on Book A and Books M and N of the *Metaphysics*, and for that reason alone it was well worth writing. But it is also to be valued as an heroic attempt to dispel the darkness which shrouds Plato's later teaching, or rather, if we are to believe modern critics, all the original contributions of Plato to the theory of Ideas, already current in Socratic and Pythagorean circles. It would seem a hopeful venture to attack this problem by a detailed study of the criticisms most nearly contemporaneous, and we may look forward with interest to the completion of M. Robin's ambitious task and especially to his attempt to bring the Platonism, say of *Metaphysics* M and N, into line with that of the extant dialogues.

He divides the present work into three books. The first deals with the Theory of Ideas, their nature and manner of existence, their causality and province, chiefly of course in the light of *Metaphysics*, Book A. The second examines the theory of Numbers and Figures and the place of Mathematical objects in the Platonic system, and endeavours to work out in detail an intermediate world between the ideal and the sensible. The third considers the Principles of all existents, formal and material, and their connexion with the Good and the Evil. The elaborate nature of the exposition hardly makes the book an attractive one to read consecutively, though perhaps that was inevitable from the nature of the subject matter. Parallel with the text on every page there runs a series of excellent notes giving references to Aristotle's writings and discussing their interpretation, sometimes at great length. Frequently, too, on the same page there is a second set of notes dealing with points raised in the first set. The result naturally is that text and notes tend to overlap. But the disadvantage is lessened by the inclusion of a good table of contents and indices, and by the relegation of some of the more lengthy notes to the end of the volume. The general method is first of all to give Aristotle's exposition of Platonism—merely a summary of the texts—then to note his objections to the doctrines thus stated, and finally to make some remarks upon these objections and estimate how far they are valid according to his own testimony. The work is therefore full of valuable information for the student of the *Metaphysics*, and even if there is not much new light, at any rate so convenient a collection

of the opinions of various authorities and so careful a balancing of conflicting interpretations cannot easily be found elsewhere.

Where so much is in dispute it is impossible to criticise in detail. Perhaps the greatest interest belongs to the second book, which deals with the Ideal Numbers and Magnitudes. One would have liked to proclaim that M. Robin had been successful in his attempt to elucidate this mysterious theory. But unfortunately it is just here that he seems to fail us. It is all to the good that he does not rush with M. Milhaud to the extreme length of denying that Plato at any time upheld the intermediateness of Mathematical objects. Aristotle's testimony in this regard is too clear to allow us to derive the Ideal Numbers directly from any theory as to the manner of existence of Mathematical truths or objects, such as M. Milhaud would seem to desiderate. Even when the Ideas became numbers they were still clearly distinguished from Mathematical numbers. But unfortunately M. Robin denies that the Ideas ever became Ideal Numbers at all. He discusses the question of the relation of these two and propounds three alternatives, that they are on the same level, or that one or other of them is superior. But surely a reading of Books M and N of the *Metaphysics* will convince any one that Aristotle at all events held that there was no relation save that of identity between Ideas and Ideal Numbers and that in Plato's later life they were two names for the same things. M. Robin, however, will not hear of this identity, chiefly it would seem on the ground that the Ideal Number series is limited to 10. And this would doubtless be awkward if it were true. But is it quite certain? It must be remembered that Aristotle discusses the question whether the Ideal Number series is finite, or infinite, as if it were undecided. "They speak of the numbers now as unlimited, now as limited by the number 10," he says. And the main point in choosing 10 (*i.e.* that $1 + 2 + 3 + 4 = 10$) is of course irrelevant with regard to Ideal Numbers which are *ex hypothesi* inadmissible. It may perhaps be suggested that the limitation of the series to 10 was the work of Xenocrates who abandoned altogether the distinction between Ideal and Mathematical Numbers. There is, of course, the awkward passage in *Physics*, 206 b 32, but the scanty evidence in favour of the limitation, at any rate in Plato's theory, cannot be compared with the very definite testimony that the Forms are identical with the Ideal Numbers. Aristotle certainly thought so, or why did he bring this very objection that the Numbers if limited to 10 were too few to serve as Ideas?

M. Robin, however, relying on a quotation from Theophrastus, holds that the Numbers are superior to the Ideas, and intermediate between the two he would place the Ideal Magnitudes. But does not Aristotle speak of these as "the things *after* the Ideas"? The hierarchy of existents would clearly seem to be (1) Ideal Numbers, as identified with the Ideas; (2) Ideal Magnitudes; (3) Mathematical objects.

Altogether M. Robin's account of the Ideal Numbers is far from convincing. He alleges, for instance, that their function is to serve as models for the Mathematical numbers, and quotes in support *Ethics*, 1096 a 17-19, about things which have a "before and after". But we are clearly told in the *Metaphysics* (1091 a 4) that Plato generated all numbers, both Mathematical and Ideal, out of the One and the Indefinite Dyad. The Ideal Numbers were therefore the formal principles not of Mathematical numbers but of all sensible objects—in fact they served the same purpose as the Ideas. One is inclined to doubt, too, the validity of M. Robin's method of generating the Numbers. The operation seems to bear too close a resemblance to the Mathematical processes of multiplication and addition from which we must jealously guard the Ideal Numbers if we are to explain them at all. And in this regard one would like to know what M. Robin conceives to be the meaning of Odd and Even as applied to Ideal Numbers. For he evidently holds that they were so applied.

But enough of detailed criticism. There can be no doubt that our author is quite right in holding that many of Aristotle's criticisms must be based on a misunderstanding, and the prime misunderstanding is that he regards all Numbers as combinations of units, whereas Plato was endeavouring to get away from that view both with regard to Ideal Numbers and Mathematical, owing to the problem of irrationals. It may be, as M. Robin suggests, that Aristotle took Plato's statement that Ideal Numbers were inaddible and applied it to the units which he himself wrongly supposed to be necessary for their constitution. Hence the "inaddible units" of the *Metaphysics*. At all events it is clear that Ideal Numbers cannot have been aggregates of units nor divisible into units, and with the recognition of that most of Aristotle's criticisms fall to the ground. In fact he entirely confuses the mathematical and philosophical standpoints, and the reason of that may be, as M. Robin conjectures, that he is continually criticising Plato in the light of the doctrines of his successor Xenocrates. At any rate perhaps that is the kindest way of dealing with Aristotle! If we have dwelt so much on one part of M. Robin's book, it is only because we recognise in that his most original contribution to the subject. It does not seem that his conclusions either on the points mentioned or on others which must be suppressed are quite accurate. But it would be unfair to pass judgment until we have the final results of his labours before us in the remaining volumes which he promises.

R. PETRIE.

Les Fonctions Mentales dans les Sociétés Inférieures. Par L. LÉVY-BRUHL. Paris: Alcan, 1910. Pp. 461.

THIS book is thoroughly welcome. It is anthropological enough for the anthropologists, and philosophical enough for the philosophers.

Thus it will serve to promote a common interest and understanding between groups of thinkers hitherto but little concerned to get into touch with one another. What the late Prof. Burdon-Sanderson used to call "bridge-work" is surely the highest form that research can take. "Cultivating your garden," that is, the intensive study of a particular subject under the sway of categories established by convention, is in the long run the grave of inspiration. On the other hand, the "transvaluation"—the wider apprehension—that results from bringing two different sets of categories into correlation is bound to manifest itself in an outburst of creative energy. The present volume deserves to be the parent of flourishing offspring. Both the student of primitive religion and the psychological logician ought to be spurred on to fresh discoveries by a method which reveals mysticism and conceptual thinking to be a sort of mental Box and Cox—alternative types of activity to which the mind of man in society is subject according as the conditions vary. The student of primitive religion will be led to see that he has to deal far less with an aspect or department, than with the general mode, of experience as it is for the savage. The psychological logician will have to enlarge his view of the thinking process, so as to allow for the workings of a kind of intuition governed by emotional and motor elements to the almost complete exclusion of the concept-form.

The first part of Prof. Lévy-Bruhl's treatise consists in a broad characterisation of *la prelogique* (as contrasted with *la logique*), that is, the non-conceptual or 'mystical' way in which primitive experience reacts on its object as a confused totality which has a perceived quality but little distinctness of parts. Given a continuance of the capacity to rouse the appropriate feeling, the object for the prelogical mind remains the same, despite differences in the circumstances of its presentation that would be all-essential for a logical or scientific mind which as such seeks to express the routine of experience under general formulæ. Thus the primitive magician operating on his enemy's finger-nails or footprint is, according to M. Lévy-Bruhl, satisfied of the real presence of the enemy; given the prelogical or mystical frame of mind, genuine transubstantiation occurs. Just so enacting the defeat of the enemy by means of a dance is defeating the enemy neither more nor less; or calling yourself a kangaroo is being a kangaroo for all intents and purposes. With great refinement of analysis, and remarkable precision and lucidity of exposition, the author sets forth the more universal characters and conditions of the prelogical stage of experience. Thereupon he proceeds to verify his theory by an appeal to the facts. First the linguistic forms, and afterwards the social institutions, of savages are ransacked in search of illustrative matter. Both sections are of excellent quality. The evidence is of the latest and best; and most of it is strictly to the point. Of the two, the former piece of work deserves the higher praise, not as being of

more careful workmanship, but simply as being far more difficult to accomplish in view of the backward state of the study of primitive linguistics. If the psychological logician can scarcely be said to have paid serious attention to the relations of thought and language in their more developed forms, how much less is it the case that a corresponding interest in the connexion between the two at the rudimentary stage has hitherto made headway either with philosophers or with anthropologists!

Unfortunately, it is not possible here to attempt a summary of a treatise that is not merely composed of a few wide generalities backed by a profusion of details, but abounds in those "middle axioms" which are especially helpful to labourers in the same field. On the other hand, to criticise without having first described seems scarcely fair. Yet in regard to one matter, a word of mild protest is perhaps necessary. In the Introduction the method of the British school of anthropologists is severely handled. They are on the wrong tack altogether. The discovery of "la prélogique" and all that is therewith implicated is the fruit of a different method—that of M. Emile Durkheim and his colleagues of *L'Année Sociologique*. Now no one on this side of the Channel would for one moment wish to belittle the admirable work of this group of students. They may be said to have redeemed Sociology once for all from the charge of flatulence. From them British anthropologists have learnt, and are learning, many things. Nevertheless, not a few of the discoveries which M. Lévy-Bruhl would apparently claim for himself and his friends have been made independently by others both in this country, in France, and elsewhere. A test case proposed by our author is the attitude adopted towards the animism of Dr. Tylor. M. Lévy-Bruhl seems to regard our leading anthropologists—Mr. Hartland for instance—as consistent upholders of this time-honoured doctrine. For their edification, therefore, he remarks: "S'il faut absolument forger une expression, e mieux serait de revenir à 'dynamisme' à la place d' 'animisme' ". There is no call to "forge" an expression which has already been used in precisely the same context by a writer who does not belong to the circle of *L'Année Sociologique*, M. van Gennep. In the opening chapter of his important *Rites de Passage* it is shown by means of accurate references to a number of British thinkers that they have done much to develop the idea for which the proposed term stands, namely, the view which makes mystic power and the communications thereof fundamental for the magico-religious life of uncivilised man. One cannot but suspect that M. Lévy-Bruhl is more of a philosopher than an anthropologist proper, and is not really in touch with contemporary study-work in this particular line, though he knows the field-work, which after all matters most. Others of his colleagues, M. Mauss, for instance, display an appreciation of British contributions to anthropological theory which is always most just.

M. Lévy-Bruhl is curiously beside the mark when he supposes typical English thinkers, such as Tylor and Frazer, to start from a "croyance à l'identité d'un 'esprit humain' parfaitement semblable à lui-même au point de vue logique, dans tous les temps et dans tous les lieux". Let him trust his own rival conviction, to the effect that human "mentalités" may differ in kind, so far as to believe that the British mind of a Tylor or a Frazer is built to get along somehow without axiomatic presuppositions conscious or unconscious; for it is content to add fact to fact almost at haphazard, until of itself, as it were, the evidence crystallises into ideas of intelligible shape. Similarly, it is not so much new methods as new discoveries in the field, and notably those of Spencer and Gillen, that, in this country at least, have been gradually forcing on the attention of anthropologists the importance of context—the need of attributing to each ethnic group an individuality no less rich than that which a tribe like the Arunta of Central Australia has been proved to have, and consequently of studying each institutional fragment in the light of the more or less unique 'mentality' or social psychosis to which it is organically related. To the same conclusion the French sociologists have come by ways that have perhaps been more consciously theoretical. Theirs is the more formalist, ours the more impressionist, style of procedure; yet the results agree remarkably. The best of it is that M. Lévy-Bruhl has found it in practice necessary to adopt a working arrangement at the back of which an unfriendly critic might discern that postulate of the homogeneity of the human mind to which the British school is alleged to subscribe. For he lumps all "les sociétés inférieures" together. He "surveys the world from China to Peru" in the old indiscriminating fashion. If, however, he can patch up a truce with his own conscience, who are we that we should cast a stone? Incidentally the characteristic French gift of drastic generalisation is given free play, and a brilliancy of exposition is attained which we seek in vain in any of the grosser products of British empiricism.

R. R. MARETT.

VII.—NEW BOOKS.

The Platonic Theory of Knowledge. By MARIE V. WILLIAMS. Cambridge University Press, 1908. Pp. viii, 133.

MISS WILLIAMS'S six essays, three of which deal with the alleged reconstruction of "Plato's Theory of Ideas" in the later dialogues, three with the *εἰδητικοὶ ἀριθμοὶ*, are based throughout on the postulate that the views of Mr. Archer-Hind may be accepted as the basis of future research into Plato. The present writer, believing as he does that Mr. Archer-Hind's version of Platonism is little more than an imaginative fiction, is necessarily debarred from a discussion which would require re-opening all the questions which Miss Williams regards as settled. He may, however, point out one or two places where Miss Williams has been led by her preconceptions into demonstrable mistakes about matters of fact. This happens twice in the discussion of the *Philebus*. For reasons best known to themselves, the school to which Miss Williams belongs are very anxious to prove that in the *Philebus* *πέρας* and *τὰ πέρας ἔχοντα* mean different things. This is not a view which any one who has studied the style made fashionable by Isocrates, and noted its influence on the Plato of the later dialogues, is likely to accept, and Miss Williams's chief proofs of it are demonstrably fallacious. It is a mere blunder in Greek to argue that *τὸ διπλάσιον*, *τὸ ἡμιόδιον*, etc., are not instances of *πέρας* because they are called the *τοῦ πέρατος γέννα*. This phrase means not "the products of *πέρας*," but "things of the *πέρας* kind," just as in Æschylus, when the eagles are said to feed on *λαγίαν γένναν*, the meaning is not "a hare's brood" but simply "a thing of hare-kind". *λαγίη γέννα* is a mere periphrasis for *λαγός*, just as e.g., *ἡ τοῦ σώματος φύσις* is for *τὸ σῶμα*. Even more unlucky is the assertion that *τὸ μέτριον* is identified at *Philebus*, 66 a, with *ἡ αἰδὸς φύσις*, and that this identification is philosophically important. The words referred to are the worst textual crux of the whole dialogue, and the one thing certain about the passage is that *φύσιν* is a wrong reading. It occurs in no manuscript, and appears to be no better than a blundering attempt of one of the early editors to make sense of the reading of Venet T., *τὴν αἰδὸν εἰρῆσθαι φάσιν*. (B. has *τὴν αἰδὸν πρῆσθαι* (*sic*), without *φάσιν*.) It seems also more than probable that *αἰδὸν* is itself corrupt. Again it is singular that Miss Williams should have been so ready to follow her teacher in detecting rude allusions to Democritus in the *Timæus*. There is no reason to suppose that Plato knew anything at all of Democritus and his doctrine. A school might very well flourish at Abdera without attracting the notice of an Athenian philosopher whose special associates were Italian and Sicilian Pythagoreans and Eleatics, nor do I see any ground to suppose that Plato would have found the Atomism of Leucippus and Democritus specially antipathetic, in view of the character of his own mathematical physics, though he would rightly enough have objected to their belated astronomy. At any rate Miss Williams's references are inconclusive,

and one of them actually excludes any allusion to Atomism. *Timæus*, 46 d, simply repeats the old protest of the *Phædo* against the confusion of "cause" with "accessory conditions," and the words in which the *συνάϊα* are described (ψύχοντα καὶ θερμαίνοντα πηγγύοντα τε καὶ διαχέοντα . . .) show that the reference is to the "opposites" of Milesian science ("hot," "cold," "dense," "rare," etc.), and of its revivers in the time of Socrates among the physiologists. The Atomists are absolutely excluded by the fact that it was characteristic of them that they did *not* treat the "opposites" as primary.

The remarks about the "innumerable worlds," *ch.* 55 d, probably have the same reference, since the "innumerable worlds" are a regular feature of the Milesian cosmology (Anaximander, Anaximenes, Anaxagoras, etc.). The passage from *Sophistes*, 262 c, d, applies to all the *φύσικοι* with the single exception of Anaxagoras, since none of them made *νοῦς* a cause of the production of organisms. Worse still is the thoroughly unhistorical treatment of the Pythagorean numbers, which proves the writer to have no acquaintance with the early history of Greek mathematics—an indispensable aid to the student of Plato. Even without personal study of the original sources, a mere casual reading of the section of the Pythagoreans in any good account of Greek mathematics would have shown Miss Williams the absurdity of supposing that the school to whom we owe the substance of Euclid, i.-iv., vi., and much of xi.-xiii. had framed no conception of geometrical space. The writer's own connexion of the "numbers" with Egyptian and Babylonian mysticism (whatever that may mean) is nothing better than a wilful attempt to confuse by the fantastic dreams of Panbabylonismus a history which is perfectly well known in its general outlines. The Academy rendered the most splendid services to mathematics in their study of incommensurables, proportion, and conic sections, but it is inexcusable historical ingratitude to forget that they could only achieve what they did by building on the results of their precursors. Plato himself was free from this ingratitude, as he shows, for instance, by putting so much of his own astronomy into the mouth of *Timæus*.

When all is said, I believe Miss Williams has some native ingenuity which might be turned to good account in the exposition of Plato, if she would only put Mr. Archer-Hind and his Berkeleyan metaphysics out of her head, and set to work to get a real knowledge of the philosophy and science of the fifth century for herself. Thus I believe she is right in saying that Aristotle had not himself heard Plato lecture on the "Theory of Ideas," though she does not give what, I believe, are the reasons for thinking so, *viz.* : (a) that it is very doubtful whether Plato lectured on the subject at all, and (b) that Aristotle's "freshman's year" in the Academy occurred just when Plato was away in Syracuse on high political business. I believe also that, *θεῖα τινὲς τύχη*, she has partly divined the truth when she hints at a connexion of the *εἰδητικοὶ ἀριθμοὶ* with the corpuscular physics of the *Timæus*. To do more than merely "divine" it is impossible without a knowledge of Pythagorean mathematics which Miss Williams seems not yet to possess. But I may just throw out a hint that she will find the *εἰδητικοὶ ἀριθμοὶ* still figuring in our text-books on Algebra under the very transparent alias of "figurate numbers," and that she will learn a great deal about their significance if she will work back from Theon of Smyrna's account of them. A happier "divination" still is her discovery that the *Philebus* positively refuses to say what, on the theory she has inherited, it ought to say. At present she puts this down to puzzle-headedness in Plato; on reflexion, I trust she will see that modesty itself suggests that the real cause of the trouble is that she is trying to unlock a door with a key that does not belong to it,

and that the real reason why even at Cambridge no one can get a satisfactory "Theory of Ideas" out of the dialogue is simply that there is nothing to speak of about "the εἶδη" in it.

A. E. TAYLOR.

The Duty of Altruism. By RAY MADDING McCONNELL, Ph.D., Instructor in Social Ethics, Harvard University. New York: Macmillan Company, 1910. Pp. 255.

Starting from the supposed opposition between egoism and altruism Dr. McConnell sets himself the problem of the justification of the duty to prefer the good of others to our own. He rightly sees that no *de facto* correspondence is of any use. The question is not whether we do as a matter of fact seek others' good, but "can we prove that a man ought to prefer the interest of others to his own". After a detailed review of attempts "to bridge the gulf" he finds an answer to it in the idea of a life force that seeks and finds an outlet in an indefinite outward expansion. "There is in life a natural expansion and fecundity. It is this that makes it impossible for the individual to be sufficient in himself. The richest life finds itself the most forced to propagate itself . . . Hence it follows that the most perfect organism will be also the most sociable, and that the willed ideal of the individual life is the life in common." The answer does not profess to be original. It is the text of M. Guyau's well-known book on *Morality Without Obligation* and without sanction from which the writer largely draws throughout. But it is set forth with a conviction and eloquence that make it attractive reading. Unfortunately with much of the literary force the writer has also carried over to his own use much of the philosophical and psychological weakness of his original, with the result of giving an air of anachronism to his whole argument. In the last generation there was, particularly in France, some justification for extreme assertions of the inwardness of morality, and Guyau did good service in denying the relevance of any theory that rested it upon anything coming from without. But those who did not know before have learned since then that the denial of externality does not necessarily mean the denial of universality and objectivity, and that while the idea of obligation becomes unintelligible when attributed to any kind of external constraint, it falls into its natural place when taken as a function of the pressure on the individual of just that fullness and unity of life of which M. Guyau was the eloquent exponent. Of course to insist on the universality of obligation is quite a different thing from seeking to prescribe to others how they should interpret their own obligations, and it is part of the perversity of this book that it habitually confuses the two. This is as though one were to say that because every one knows his own business best, the community has no business of its own and none with his. There is a like anachronism in the writer's way of asserting the place of the will against philosophers who, like Fouillée, insist on the power of ideas, and other idealists who emphasise the importance of organisation in life. The revival of a form of primitive Kantism in France at the end of last century made the energy of Guyau's protest against mere formal consistency and an empty moral logic at least comprehensible. But again we have learned that the life which we *will* not only includes the life of reason—more particularly the organisation of knowledge, but that life as a whole bears witness to an ideal of unity and rationality to give expressions to which is the deepest spring of human action. Of course Dr. McConnell admits this when he comes to business in the last chapter. My quarrel with him is that he fails to correct his earlier in the light of his later insight, and is therefore forced

to gloss over the gap by the external device of an "also"; reason is a means, it is *also* an end; it is accessory, it is *also* essential. But it is in his treatment of the will itself in the central chapter on Reason and Will that the instability of the writer's position comes out most clearly. We have been taught in the earlier chapters that the chief enemy to clear thinking in ethics is metaphysics. Metaphysics can tell us what not to believe, not what we are to believe; what the absolute is not, not what it is. By some peculiar kind of alchemy it can precipitate error without leaving any residuum of truth. Hence Dr. McConnell throws in his lot with radical empiricism. Facts alone are certain, "conceptions" are "idols of metaphysicians"—from which it follows that "common good," "the general will," "the universal self" are a mere "meaningless jumble of words". In a similar strain the ideal is contrasted with the actual. Apart from what is actually willed, it has no reality; "an ideal means simply what is willed". All this has been familiar from the time of Protagoras. But its revenge has also been familiar. The empiricist cannot of course get rid of the universal; yet he can only recognise it in terms of the particular, with the result that he is apt to step without knowing it from a crude nominalism to an equally crude realism. Dr. McConnell has not escaped. He has denied the reality of anything but the particular fact, but his moral theory commits him to the recognition of Will big with its burden of a larger as yet unrealised life. How is he to deal with it? The only way is to treat it as an actual existing thing. And this is what he does. Throughout this chapter the will appears as an entity entirely separate in essence from the accessory reason (though not apparently from emotion), something which causes conduct, makes pronouncements, "is exactly what it is and can only be". The measure of the will is also the measure of the ideal which we are assured is "nothing more important than or at all different from the present self". Of course again when the writer comes to the facts of the situation all this metaphysics is forgotten. Under the name of the "normal man" the universal comes to its rights and the book has a happy ending. It is inconsistent, but it shows what Dr. McConnell can do when he permits himself, as he too seldom does, to write with his eye directly on the object and not on what other people have said about it.

J. H. MUIRHEAD.

Æsthetic as Science of Expression and General Linguistic. Translated from the Italian of BENEDETTO CROCE by DOUGLAS AINSLIE. Macmillan & Co. Pp. 403. 10s. net.

One-third of this book is devoted to an historical summary, the rest containing the exposition of the author's own doctrine. For Croce expression is identical with expression. *Æsthetic* then becomes the science of one of the two great divisions of knowledge, intuitive and logical. Intuition gives "the world, the phenomenon"; the concept gives "the noumenon, the spirit" (p. 52).

Even the words of a lyric may be "intuitive facts without a shadow of intellectual relation". Further, a work of art may be full of philosophical concepts, yet the result of it is an intuition. The distinction between reality and non-reality is "extraneous to the true nature of intuition". Intuition, then, means much the same as Simple Apprehension as used by Prof. Stout in his *Groundwork*. And briefly put, Croce's thesis is that all such intuition is *æsthetic*, and that all *æsthetic* experience is intuition.

Some obscurity arises when the author seeks to explain what he means by "expression". "Every true intuition . . . is also expression; that

which does not objectify itself in expression is not intuition but sensation." Yet in another passage he says: "It [expression] *has* intuitions of things".

Expression as used by Croce is quite other than the familiar use of the term in such statements as "the artist expresses himself in his work". It is a kind of expression to self, a "spiritual activity" resulting in a "synthesis of the various, the multiple into one". The "complete process of æsthetic production" includes: "(a) Impressions; (b) expression or spiritual æsthetic synthesis; (c) hedonistic accompaniment; (d) translation of the æsthetic fact into physical phenomena (sounds . . . combinations of lines, colours, etc.)". But the only part which is really æsthetic is *b*; indeed Croce makes the astounding statement that it is the only part which is "truly real".

Throughout the book the author tends toward the extreme position that the man who has an æsthetic experience in the fullest sense can express it to others, just as one who has a complete idea has it already expressed clearly in words and has only to repeat them to others. As the man who imagines himself wealthy but is not, can be convinced by arithmetic, so he who fancies he has rich æsthetic experiences can be put to the test. "We say to the former, count; to the latter, speak, here is a pencil, draw, express yourself."

Croce asserts not only that all æsthetic experience is intuition, but also that "intuition is always art". He claims that no one has ever been able to indicate what differentiates artistic intuition from other intuitions, and declares that the only difference is a quantitative one. Yet he makes the fatal admission that "the painted wax figures that seem to be alive do not give æsthetic intuitions". Here then at least we have intuition which is not æsthetic.

And again, "All impressions can enter into æsthetic expressions . . . but none are bound to do so" (p. 30).

Croce divides all human activities into two groups: Theoretic, including Æsthetic and Logical; and Practical, including Economic and Moral. These have their own independent spheres. There must be no moral judgment upon the choice of the artist's theme. "When critics remark that a theme is badly selected . . . it is a question of blaming not the selection of the theme (which would be absurd), but the manner in which the artist has treated it" (p. 84). The impossibility of the artist's choice of content is "the only legitimate meaning of the expression, 'Art for Art's sake'". So long as ugliness exists in nature it is not possible to prevent its expression. But ugliness according to Croce is merely inexpressiveness. What then does the previous sentence signify for him? And how is it that the artist *must* copy the ugly in nature when "natural beauty, which an artist would not to some extent correct, does not exist"? (p. 162).

It is in his treatment of the ugly that one realises most strongly the unsatisfying nature of Croce's theory. Convincing as he may be in showing how all æsthetic experience involves expression-intuition, he fails to show how the beautiful can be distinguished from the ugly by any quantitative estimate of expression. The rigid application of his doctrine leads him to the assertion that it is easy to show an æsthetic side to every logical proposition. Of course this is true, in Croce's sense of the word æsthetic. But such experience as I have when I contemplate the proposition "Some angles are obtuse" is emphatically not what either philosophers, artists or "plain men" have meant by the æsthetic experience.

The unsatisfying nature of Croce's position as a whole is the more disappointing when one notes the many examples of keen insight into

some of the more special problems, which are sufficient to make the book exceedingly suggestive.

As far as one can judge without reading the original Italian, Mr. Ainslie has succeeded admirably in his translation, in spite of Croce's assertion that translations are impossible. But a less laudatory preface would be an improvement. On what evidence does Mr. Ainslie base his assertion that in Italy "Philosophy sells better than fiction," and that this is due to Croce's influence? And does he think that it is the best testimonial to a philosophical treatise that it should quickly run through several editions?

C. W. VALENTINE.

The Problem of Human Life as Viewed by the Great Thinkers from Plato to the Present Time. By RUDOLF EUCKEN. Translated by WILLISTON S. HOUGH and W. R. BOYCE GIBSON. London: T. Fisher Unwin, 1909. Pp. xxv, 582.

A short notice of *The Problem of Human Life* appeared in MIND, N.S., vi., p. 273. Since then the German work has from time to time been revised and reissued, and it is now in its eighth edition. This is some indication of the merits of the book, as well as evidence of the wide interest which Eucken's writings attract in his own country. It is not, therefore, surprising that an effort should be made, by expositions and translations, to give English readers a knowledge of his philosophy. In this task Mr. Boyce Gibson has played a conspicuous part, and he and Mr. Hough have been well advised in undertaking the translation of this work. For it is undoubtedly one of Eucken's best books; and the reader will find here—what he will not readily find in Eucken's other writings, where historical references are scanty—a treatment of the concrete development of thought by the vitalistic method. The guiding idea of this volume is, that the movement of conceptual thought depends on and is determined by the larger movement of life. As the author says in his preface to this translation: "Under the guidance of this conviction the book traverses the whole spiritual development of the Western world, in the hope that the several phases of the development, and, above all, its great personalities, will be brought nearer to the personal experience of the reader than is customarily done". The translation appears to be well executed. An effort has been made to conform to the rules of idiomatic English, and the reader is not reminded by awkward and involved sentences that he is following a translation. Moreover, as Eucken himself was consulted on points of difficulty and revised the translators' work, we may feel reasonably confident that the meaning of the original is adequately conveyed in this rendering.

The Problem of Human Life has three parts: the first part treats of Hellenism; the second of Christianity, its origin, and early and later forms; and the third of the Modern World. The volume is distinguished from the ordinary History of Philosophy by having no apparatus of notes and references; any quotations given appear in the text without means of identification. The author has not attempted to present a continuous narrative, but has concentrated his attention on outstanding figures and features. Still, even when we keep in mind Eucken's purpose, his omissions occasionally surprise us. Though philosophy and life are so intimately related in Socrates, he is dismissed in less than a page, and in the section on Early Christianity it is strange to find the life and doctrines of St. Paul altogether ignored. When Eucken comes to the Modern World his treatment is more continuous.

In the case of a large volume like this, full of material and rich in

suggestion, one can do little more in a short notice than direct attention to some points of interest. Learned specialisation and accurate criticism are good in their place, Eucken remarks, but more is needed to appreciate the great thinkers. Their thought has its source in the inner depths of the life-process, and they can only be understood by the sympathetic intuition which penetrates externals and seizes what is central and essential. "For what really makes the Thinker great is that which transcends mere historical explanation; it is the power of original creation, the Unity which animates and illumines everything from within." This is the spirit in which Eucken takes up his task. In turning to the Greek thinkers he notes at the outset that the magnitude of their achievement is sometimes obscured by an overestimate of the average natural endowment of the Greek people. The idea that the great creative works were little more than 'the precipitation of the social atmosphere' will not survive close examination. The environment no doubt meant much, but a just estimate of its influence heightens our appreciation of the genius of Plato and Aristotle. The estimate of the Platonic and Aristotelian systems which follows is thoroughly instructive, the more so that it does not follow the lines of the ordinary text-book, but is an endeavour to grasp the inner meaning and shaping purpose of their work. Aristotle's influence, Eucken holds, is less due to "the inner-unity of his view of the world and life than to the subjugation of vast domains of knowledge by means of simple and fruitful ideas". This is no doubt true, for there runs through the Aristotelian work a dualism which prevents it from being truly systematic and coherent.

The part of the book which treats of the Modern World is the longest of the three divisions, and the author's survey extends from the Renaissance thinkers to Nietzsche. It is an illuminating survey throughout, and well repays a careful reading. Occasionally, of course, one may cavil at a statement. To say, for instance, that Spinoza is "very close to Christianity in the central doctrine of his thought" is surely an exaggeration. The treatment of Leibniz, if I may judge, is particularly good. There are two tendencies in Leibniz: on the one hand he was strongly attracted by the new movement in mathematics and science, and on the other he had an affection for what was traditional in morality and religion. Eucken vigorously repudiates the idea that the conception of God is extraneous to the system of Leibniz: it is essential, and it saves him from a destructive relativity. The discussion of Hegel is also excellent; and Eucken not unjustly discerns the secret of Hegel's power in his combining rigour of system with spontaneous wealth of intuition. The work of J. S. Mill is well characterised in the following words: "It illustrates the main respects in which the developing life of the nineteenth century was driving men beyond the position which in the earlier half of the century had been held by the very people who felt, and had a right to feel, that they were in the vanguard of progress".

The translators have done good service in making this book easily accessible to English readers, and it deserves to be widely studied.

G. GALLOWAY.

Aristote et l'Idéalisme Platonicien. By CHARLES WERNER. Paris: Alcan, 1910. Pp. xii, 370.

Dr. Werner's book is one of unusual interest, not so much, I think, for its direct contribution to our understanding of Aristotle, as because of the brilliant way in which the essential features of an "irrationalist" doctrine, like that of Bergson, are brought out by comparison with the

alleged defects of the "intellectualism" of Plato. The author's complaint against intellectualism is that by confounding the categories of "reality" (i.e. the objectively known world) with those which characterise the knowing mind, and then going on to confuse the "order of being" with that of value, it makes the self-conscious subject purely passive, both in knowledge and in action. Free activity is the characteristic of the subject, as contrasted with the objective world, and free activity is always irrational—*qui dit liberté dit mystère*. Dr. Werner then sets himself, with remarkably minute knowledge of the Aristotelian text, to answer the question whether Aristotle has in any part of his thought emancipated himself from the Platonic bias so far as to introduce this irrational spontaneity into philosophy. (The assumed version of the Platonic doctrine, I may say, strikes me as a conventional caricature which Dr. Werner could never have repeated if he had given to Plato the same thorough and unbiased study that he has bestowed on Aristotle.) The general result arrived at is that in his Logic, Epistemology and even in his Psychology, Aristotle is still in bondage to intellectualism. The doctrine that the concrete individual is "form" realised in matter is purely intellectualist, since the identification of "form" and *οὐσία* amounts to the view that a thing is only so far real as it is rational. So, too, the doctrine of syllogism is condemned on the curious ground that it holds that the "necessity" which connects conclusion with premisses is inherent in the premisses, and not arbitrarily manufactured by the thinker who thinks them. (Would Dr. Werner really prefer a logic in which conclusions would not follow from premisses unless I chose that they should?)

The *de Anima* promises better things when it compares cognition with nutrition, but ends by maintaining the absolute passivity of mind over against *αἰσθητὰ* and *νοητὰ εἶδη* which are not its own free creations. (Again, I do not understand how Dr. Werner has satisfied himself that there is anything objectionable in such a passivity. For what it means is not that thought involves no processes of active construction, but merely that the result of its constructions is the recognition of truths which we cannot make and unmake *ad libitum*. How a mind standing in the cognitive relation with a world of objects can escape being at once active and passive is to me a mystery. All perception and thought are clearly active as involving selective attention and subjective interest, but all thought that leads to anything is also *directed* and *controlled* thought, and therefore also passive.)

The real advance on Plato is found by our writer in Aristotle's *Ethics* to which he gives an ingenious, but in my opinion entirely mistaken, turn. Aristotle, it is held, was a Hedonist. He held that the good is virtue *plus* pleasure, and even that virtue is only desirable in the end for the pleasure inseparable from it. Now pleasure belongs to the emotive side of life, and moreover it depends on incalculable conditions whether even the most excellent man will get enough of it to make him thoroughly happy. But pleasure is the only efficient cause of action; the *ὁρεκτόν* is not the external object (e.g. the apple) but *ἡδονή* (i.e. apparently the pleasure Eve hopes to get from eating the apple), and *ἡδονή* is a state of the soul. So in desiring pleasure the soul is really desiring itself, and this is why it can be called "self-moved". Thus Aristotle recognises that the "subject" possesses an irrational liberty or spontaneity which takes it out of the realm of "reality," though he unfortunately fails to avoid constant relapses into the bad ways of intellectualism. Plato could not rise to this height because, not being a Hedonist, he held that the good is good in its own nature, and desired by us because we cognise its goodness, not "posited" by an irrational act of liberty antecedent to all

cognition. Clever as all this is, I cannot feel that it is sound criticism or sound ethics. In fact, I should have said that in his *Ethics*, more than in any other part of his philosophy, Aristotle shows himself an almost slavish follower of the master towards whose memory he displays so little proper piety. The texts adduced to produce the Hedonism of Aristotle can all be shown to come from contexts in which the moral theory of Eudoxus is dialectically examined, and therefore prove nothing as to Aristotle's own views, while other texts which do seem to indicate the Aristotelian position are as anti-Hedonist as anything in Plato. The odd thing is that no one knows these texts better than Dr. Werner, who honourably quotes them, but contrives to explain them away by arbitrary exegesis. His methods of interpretation would, *e.g.*, require us to believe that Aristotle regarded sound health as little more than a means to a rosy complexion. Further, I see no difference at all between Plato and Aristotle on the question of the good as owing its goodness to an arbitrary act of "positing" antecedent to all cognition. It is Aristotle himself who says—and Dr. Werner quotes the words—*ὁρεγόμεθα διότι δοκεῖ μάλλον ἢ δοκοῦμεν διότι ὁρεγόμεθα*, and who teaches that the *φαινόμενον ἀγθόν* is the object of all appetition. And in any case, I do not see what irrationalism is doing in a theory of conduct. If the good has a goodness which I can discern but did not create, I can understand how it can draw all men unto itself. But if it is a work of my own hands, if I "make" it good by an exercise of irrational caprice, what claim has the idol on the reverence of its maker? It strikes me as peculiarly unreasonable to combine such a view with Hedonism, since the only argument for Hedonism is precisely that of Eudoxus, that pleasure is the *connatural* good of all creatures. If pleasure can be *made* good by an "act of liberty," why may not pain be made good in the same way? And if any creature can freely posit pain as its good, there is an end of Hedonism.

The object of this insistence on an irrational act of free "positing" of the good appears to be to insist, against Plato and Aristotle, that the "order of values" has nothing to do with the "order of reality". But is it so certain that the mistake does not lie with those who insist on disjoining the two. The question is a fair one, whether our highest hopes and the fate of morals and religion may not depend on the identity of the *ens realissimum* with the "fairest among ten thousand and the altogether lovely".

I note, in conclusion, that Dr. Werner advances the, to me, singular view that Aristotle's God has a body, and is, in fact, the "soul" of the "first heaven". I believe myself that this unusual exegesis is a mistaken one, and depends on a pure confusion. The movement of the "first heaven," being a *φυσικὴ κίνησις*, requires, of course, an internal *ἀρχὴ κινήσεως*. But this is supplied by the *ὁρεξις* of the "heaven" towards God. Dr. Werner here, as when he explains *ἡδονή* as being the ultimate object of all *ὁρεξις*, seems to me simply to confound *ὁρεξις* with *τὸ ὁρεκτόν*. I am sure he quite fails to meet the difficulty created for him by such an expression as, *e.g.*, that of *Met.*, 1075 a 14, where God is said to be more properly compared with the general of an army than with the spirit of discipline which pervades it. I doubt if he himself can be really satisfied by his attempt to whittle down the meaning of the repeated assertion that God is pure form. At the same time, it must be conceded that the appearance of a God who is not a form realised in matter is out of place in Aristotle's philosophy. If the anti-Platonist arguments, which Aristotle thought good enough as sticks to beat the Academy with, are sound, such a God ought to be impossible. The fact that He turns up in the very centre of the Aristotelian scheme should not, however, be explained away: it is only one of the many indications

of a fundamental incoherence in Aristotle's philosophy ; his final results everywhere are just of the kind he objects to in Plato ; and *what* the improvement he fancied himself to have made on his master *was*, is what no one has ever been able to tell. I do not think Dr. Werner has found the secret, but, none the less, I warmly recommend his most original study to all who believe that criticism of the great splenic can yield no fruitful hints for the future.

A. E. TAYLOR.

La Philosophie de S. S. Laurie. Par GEORGES REMACLE, Professeur à l'Athénée royal de Hasselt. Bruxelles, 1909. Pp. xxxii, 524.

The fate of the philosopher is very often that of the prophet—he has little or no honour in his own generation and in his own country. The value of his doctrine has to be taught to his own countrymen by the lips or pen of a stranger. Except to the author there is perhaps no great disadvantage in this ; for the inevitable consequences of proximity—jealousy and overweening sympathy—are apt to destroy the perspective which is necessary to obtain the due balance and proportion of the truth enunciated.

The volume under review illustrates these remarks. M. Remacle here renders, primarily for the benefit of his continental brethren in philosophy, the substance and spirit of Laurie's interpretation of experience. M. Remacle is already known to students as a devoted disciple of Laurie, and translated some years ago the first statements of Laurie's system—the *Metaphysica* and the *Ethica*. The present volume is a careful and elaborate reproduction of the argument of Laurie's *Synthetica*. The volume is introduced by an appreciative biographical notice of much value and interest. In the preface M. Remacle gives a succinct and comprehensive view of the principle and aim of the *Synthetica*. The succeeding analysis of the work takes up point by point, and, for the most part, chapter by chapter, the stages in the development of Laurie's argument. M. Remacle keeps with absolute faithfulness to the letter as well as the spirit of his author, a method which at any rate ensures completeness and thoroughness in the reproduction of the system. For the purpose he has in view perhaps this method was the best to adopt in the case of an author whose style is so condensed as Laurie's. But a little more freedom and detachment from his author might possibly have increased the value of his work for Laurie's own countrymen.

The full review of the *Synthetica* in *MIND*, October, 1908, and April, 1909, renders it unnecessary to go over in detail M. Remacle's restatement of the argument of that work. We cannot, however, refrain from congratulating M. Remacle on the successful completion of his labour of admiration.

J. B. B.

Das Beharren und die Gegensätzlichkeit des Erlebens. Stuttgart : Franckh, 1908. Pp. 40.

Über Theodor Lipps' Versuch einer Theorie des Willens. Leipzig : Barth, 1908. Pp. 50.

Zwei Vorträge über dynamische Psychologie. Leipzig : Barth, 1908. Pp. 26.

Über die biologische Funktion des Bewusstseins. Estratto dalla *Scientia*, vol. v. Bologna : Zanichelli. Pp. 13.

Die Stelle des Bewusstseins in der Natur. Leipzig : Barth. Pp. 34. All by JULIUS PIKLER, Professor in the University of Budapest.

All these five pamphlets are devoted to the exposition and illustration of a psychological principle for which Prof. Pikler is probably right in

claiming great interest and importance. The line of thought which conducts to it may perhaps be condensed as follows. Every experience and every belief leaves behind a tendency to continue and expect it. It would therefore continue, if it were not inhibited by an opposite tendency which, when it becomes actual, overpowers it and so reduces it to an idea (*Vorstellung*) of which we become conscious. Thus every idea is an inhibited tendency to experience (*Erleben*), or a 'paralysed experience'. Every psychic object, therefore, when we become conscious of it, appears in a struggle against an opposite object, and therefore as a *force*. To will a thing is to believe that the reality of an object actually inhibited would have greater value for us than the opposite belief. Belief in the reality of an object depends on three factors, (1) external forces, (2) the relative frequency with which it and its opposite are experienced, (3) the greater interest, value, or satisfactoriness which it possesses as against its opposite. Each of these factors is normally decisive as regards certain classes of experience, though there are always exceptions. The first determines our perceptions and memories, though past experience and valuations may sometimes lead to illusions; the second normally determines our ideas, though occasionally perceptions and valuations may overpower them; the third, to which he points out pragmatism has systematically called attention, determines our religious beliefs and our actions, which normally aim at realising what seem the more valuable alternatives, though from force of habit or physical exhaustion our acts may be otherwise directed.

Prof. Pikler's principle, which is developed most formally in the first of his essays and discriminated from Lipps' theory of will in the second, has important affinities with Dewey's account of the formation of beliefs. Both are emphatic that *tension* is the normal condition of psychical existence, and that doubt and conflict are the stimuli to mental development. As Prof. Pikler says, "it is impossible to judge significantly 'it is warm,' save in order thereby to repel the opposite belief". Only he goes further than Dewey in not merely accounting for the genesis of 'truths' in this way, but also of expectations and wishes, and even of consciousness itself. Perhaps, however, he does not quite establish the *convenience* of describing the stress or tension which conditions the existence of all the contents of consciousness as due to the pressure of opposite tendencies which operate unconsciously. There is a paradox in speaking of these unconscious forces which is apt to shock the more timid psychologists. Or rather there is an inconvenience in blurring the distinction between the cases where the struggle between the opposing tendencies is conscious and where it is only *inferred* from the result after one tendency has prevailed over another. Yet it is hard to resist the conviction both that there are both kinds of struggle, and that in principle the contents of consciousness must be regarded as survivors in such a struggle. For even if a mental content has arisen without a conscious struggle, it has to defend its right to be so soon as it is questioned. And everything may be questioned. It is also clear that this principle has an enormously important application to logic, because it brings out the fundamental selectiveness of thought. If every real experience and every real thought are conditioned by a doubt and a choice, are we not turning our backs pretty decisively upon a logic which regards as its ideal a dogmatic assurance unrelated to life?

The main point which it seems Prof. Pikler should work out further is the proof that there is only *one* alternative to the experience 'in being,' which can be related to it as its opposite. Sometimes no doubt this appears to be so. The experience of 'hot' naturally suggests 'cold,' 'light' 'dark,' 'noisy' 'silent,' etc.; but in other cases the antithesis

is not so obvious. What *e.g.* is the opposite of 'red' or 'sweet'? And when we come to deal with concrete objects, they always seem to present a multitude of aspects each of which *might* engage our attention, and does so variously according to our different interests. When Prof. Pikler sees a roaring lion rushing upon him, is his experience conditioned more by the appeal made to his eye or his ear or his sentiment, and will it not be different according as he perceives or not that the monster is actually separated from him by an efficient railing? It is difficult to understand, therefore, how any abstract logical contrariety can of itself determine the course of thought. We seem to need rather a general principle of selection among alternatives which are not limited to *two*.

F. C. S. SCHILLER.

The Works of Aristotle, translated into English: *De Mirabilibus Auscultationibus*. Translated by LAUNCELOT D. DOWDALL, B.D., LL.B. Oxford: Clarendon Press.

This collection of wonders and travellers' tales is one of the quaintest, and perhaps the least significant, of the works included in the Aristotelian Corpus. That it is included in the Oxford translation at all is a sign of the completeness that enterprise aims at.

The translation of the little work calls for some out-of-the-way learning, but otherwise merely for accuracy. Mr. Dowdall shows himself lacking in neither requisite, and criticism can fasten only on a few details. Once or twice an obscurity in the sense of the original is simply reproduced in the English, as in the last sentences of 57, and in 73 *ἐν τῇ ἰκμάδι*, where probably *ἰκμάς* implies its usual sense of *animal* moisture. Again, the translation of 145 is awkward, and that of 151 (end) ambiguous. In 66, and perhaps also in 76, the connexion rendered by "because" might be reconsidered. "Domes carved in remarkable proportions" (100) seems doubtful English, and so does "malicious" (for "malignant," *κακόηθες*) of the bite of a serpent (164). And *ἀπὸ τῶν γνωριζομένων* (133) does not, I think, mean "from what was already known to them," but rather "from what was there pointed out to them".

JOHN HANDYSIDE.

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VIII.—PHILOSOPHICAL PERIODICALS.

PSYCHOLOGICAL REVIEW. Vol. xvii., No. 2. **C. H. Judd.** 'Evolution and Consciousness.' [Aims to show, in objective terms, that consciousness is a product of evolution which continues, in higher form, the movement apparent in all earlier adaptations; that, as soon as consciousness is fully developed, the direction of all adaptation is radically modified; and that, if human life is to be scientifically explained, explanation must be based on a thorough-going study of consciousness. (1) All evolution is towards complexity, and increase in complexity means everywhere increase in the organism's self-sufficiency. Consciousness promotes self-sufficiency by taking up the environment into the individual and there remoulding the absorbed environment in conformity to individual needs. (2) Consciousness further solves the age-long opposition of individual and environment in a new way, giving the individual a supremacy over external conditions which no other organic function permitted. New functions grow up, in support of consciousness, which are not directly related to environment. Language has brought it about that we live primarily in a world of words; art is of value as a means of arousing our powers of conscious rearrangement of the world. MacDougall's emphasis of emotion and instinct, and Darwin's of sexual selection, look in the wrong direction; adaptation is now intellectual. (3) Since strictly biological formulas and analogies fail us at the establishment of consciousness, the student of social institutions must look to psychology, not to biology, as his basal science. The paper ends with the discussion of special questions: the causal character of consciousness, its operation in the control of bodily activity, the limits of structural psychology, the application of psychology to practical problems.] **B. Sidis and L. Nelson.** 'The Nature and Causation of the Galvanic Phenomenon.' [Review of previous theories; criticism of technique. Experiments on animals, with elimination of a battery, show that the galvanic phenomenon can only be due to an electromotive force initiated in the organism itself by the psychophysiological processes under the influence of external stimulation. As to causation, further experiments, with variation of procedure to meet the various possibilities, show that the phenomenon is exclusively muscular; the deflections are due to electromotive forces liberated by muscular activity under the influence of affective and emotional states.] **W. D. Scott.** 'Personal Differences in Suggestibility.' [The results of experiments on the suggestion of a certain after-image colour and on that of heat in a wire show an insignificant degree of correlation; hence degree of suggestibility as determined by one test cannot be generalised to cover degree of suggestibility at large; there are various suggestibilities in the same individual.] Announcement.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xxi., No. 2. The number contains the addresses of the foreign guests at the Celebration of the Vicennial of Clark University, September, 1909. **S. Freud.** 'The Origin

and Development of Psycho-analysis.' [A series of five lectures by the founder of the psycho-analytic school. Lecture I. describes the first beginnings of the cathartic method in the talking-cure of Breuer. This case suggested that hystericals suffer from reminiscences ; it also brought out the primary importance of affective processes, and the fact of hysterical amnesia or dissociation. Lecture II. opens with a brief critique of Janet's views, and passes to an account of the author's own development of the psycho-analytic method : emphasis is laid on repression, and on the continued existence of the repressed wish in the unconscious, with the consequence of surrogate-formation. Lecture III. illustrates the determination of all mental process by reference to wit, the psychopathology of every-day life, and especially the dream, which is interpreted as a disguised fulfilment of repressed wishes. Here is introduced the concept of the 'complex'. Lecture IV. brings us to the doctrine that the pathogenic wishes are of the nature of erotic impulses. It goes into some detail in the matter of infantile sexuality, and ends with the remark that the " psycho-analytic treatment may be regarded only as a continued education for the overcoming of childhood-remnants (*Kindheitsresten*)". Lecture V. insists that neuroses have no special content ; neurotics fall ill of the same complexes that we sound persons struggle with. It then deals with the emotive transfer ; discusses the therapeutic status of the psycho-analytic method ; and ends by pointing out the three possible fates of the freed wishes,—condemnation, sublimation, and satisfaction.]

C. G. Jung. 'The Association Method.' [Three lectures. In Lecture I. the author describes his use of the method of association and reproduction ; he prints his formulary of 100 words, gives examples of normal and hysterical reaction types, points out the critical features in the results (prolongation of time, multiple association, repetition of stimulus, identical reaction), and illustrates by reference to an actual case the employment of the method for the detection of a criminal. He then takes up the question of emotive types, and shows (again by an actual case) the therapeutic value of the method. Lecture II., on the familiar constellations, is in part a reproduction of a former paper on *Associations d'idées familiales* (cf. *MIND*, xvii., 1908, 441). Analysis of a particular case leads to the heuristic maxim that, if a neurosis springs up in a person, this neurosis contains the counter-argument against the relationship of the patient to the personality with which he is most intimately connected. Lecture III. expounds the psychical life of a girl of four years, beginning with the disturbance produced by the birth of a brother, and culminating in complete sexual enlightenment. The history is offered as a counterpart to Freud's *Analyse der Phobie eines 5-jährigen Knaben*, and as evidence of the complexity of the child's mental processes.]

W. Stern. 'Abstracts of Lectures on the Psychology of Testimony and on the Study of Individuality.' [Lectures I. and II. deal with the psychology of testimony. After a brief introduction, on the nature and status of applied psychology at large, the author discusses the methods of the psychology of testimony, its numerical results, the psychology of narrative errors and of the errors in interrogatory reports, and practical consequences for pedagogy and law ; he ends with references to the literature. Lectures III. and IV. deal with the study of individuality. Lecture III. takes up the general problems of the study ; the philosophical basis of the concept of individuality ; methodology ; and the special problem and tendency of psychography. Lecture IV., on the individuality of the child, treats of the little child, the child of school age, the differences of the sexes, organisation with reference to grade of endowment, Binet's tests for establishing a scale of intelligence, and supernormal endowments.] The two remaining papers are concerned

with the Freudian psychology of dreams. **E. Jones.** 'Freud's Theory of Dreams.' **S. Ferenczi.** 'The Psychological Analysis of Dreams.' [The first paper gives a straightforward outline of the *Traumdeutung*, illustrating by examples the processes of condensation, displacement, dramatisation, and secondary elaboration; exhibiting the peculiar features of the manifest content (recency, insignificance, hyperamnesia); setting forth Freud's doctrine of the endo-psychic censor; and interpreting the latent content as the imaginary fulfilment of an ungratified wish. The second paper goes over the ground in a less systematic way; it, too, is illustrated by analyses of actual dreams.] Psychological Literature. Book Notes.

INTERNATIONAL JOURNAL OF ETHICS. Vol. xx., No. 3, April, 1910. **J. Royce.** 'The Reality of the Temporal.' [Directed towards showing the inadequacy of Bergson's position as regards the assurance of the reality of the time order. The novelty or uniqueness characteristic of events in real time is not an immediate *datum* of sense or feeling, but an *interpretation* of experience. "The temporal form of experience is primarily the form of the will." We will uniqueness in case of our own acts, and we *acknowledge* it in case of acts or events generally. The temporal in its wholeness is the eternal.] **R. G. Bury.** 'The Ethics of Plato.' [A "short" and "plain" account of Plato's ethical theory, yet clear and instructive.] **C. R. Henderson.** 'Ethical Problems of Prison Science.' [Written in view of the International Prison Congress at Washington. Indicates various aspects of the social problem and methods of dealing with them, and gives an account of the programme of the Congress. Emphasises preventive measures and socially constructive effort.] **W. J. Roberts.** 'The Appeal to Nature in Morals and Politics.' [Treats of some uses and abuses of the conception of natural law and right. "The appeal to nature in ethics and politics . . . is alive in the popular, the scientific, and the philosophic thought of our day, and according to the mind which employs it is the response which it evokes. . . . Its right use has been associated with some of the noblest thoughts and movements in the history of mankind." At its highest the conception "is at once cosmical and humanistic, neither setting non-human nature above man, nor man above nature".] **C. A. Ellwood.** 'The Sociological Basis of Ethics.' [Sociology, as the psychology and biology of the collective life, must furnish the immediate positive foundation for the science of ethics. The natural sciences, especially biology, psychology, and sociology, are establishing certain standards of normality for their own purposes. The business of ethics is to develop, criticise, and harmonise the normative implications of all the social sciences. On this view of ethics the moral becomes simply the normative aspect of the social, and the moral virtues become concrete social values.] **J. W. Scott.** 'Post-Kantian Idealism and the Question of Moral Responsibility.' [Contents that the idealistic account of human freedom satisfies the moral consciousness; because, although action is the inevitable outcome of conditions—although the causal system is inviolable—the natural order is itself the product of mind or spirit. Our action is free just in so far as it is *ours*; and in so far as we ourselves are spirit, our action is *ours*; for the doer is the universe functioning in or as *our* spirit.] **F. C. Sharp** and **M. C. Otto.** 'A Study of the Popular Attitude towards Retributive Punishment.' [Report of an examination of one hundred agricultural students at Wisconsin. The results prove the existence of a general disposition to justify rather than condemn retributive action.] Book Reviews.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. vii., 9. **W. B. Pitkin.** 'James and Bergson: or, Who is against Intellect?' [Challenges James's interpretation of Bergson and his belief in the similarity of their anti-intellectualism, but cf. No. 14.] **J. A. Leighton.** 'On Continuity and Discreteness.' [Refuses both horns of James's dilemma 'either Bradley or Bergson,' because philosophy must combine continuity and discreteness.] Report of the Section of Anthropology and Psychology of the New York Academy of Sciences by R. S. Woodworth.—vii., 10. **E. Jacobson.** 'The Relational Account of Truth.' [Thinks that a truth may be recognised as 'absolute' *within* each scientific system, even though there is no absolute system. "What is relationally true to-day cannot be relationally false to-morrow, if it is essentially the same 'what'." Does not see that the 'essentially' begs the question, and the 'if' renders the truth hypothetical and not 'absolute'.] **H. S. Shelton.** 'On Methods and Methodology.' [Pleads for the 'removal of methodology from the metaphysical to the practical side of logical theory, and points out that the metaphysical conception of 'cause' as the *complete* ground has no meaning for science.] **W. F. Cooley.** 'Contingency in an Infinite World.' [Replies to Kilpatrick (vii., 3) that his cosmic contingency does not relieve the pressure of determinism.]—vii., 11. **G. A. Coe.** 'Borden Parker Bowne.' [Obituary.] **J. S. Moore.** 'The System of Values.' [*Appropos* of Urban's and Münsterberg's books.] **A. Alexander.** 'The Paradox of Voluntary Attention.' [Thinks it very doubtful whether 'will' is a datum of consciousness, and that it cannot be proved to exist as a special psychical process.] Fifth Meeting of the Southern Society for Philosophy and Psychology.—vii., 12. **F. B. Sumner.** 'The Science and Philosophy of the Organism.' [A long discussion of Driesch's Gifford Lectures from a Mechanistic Standpoint.]—vii., 13. **R. B. Perry.** 'Realism as a Polemic and Program of Reform—I.' [Criticises the 'general errors' of philosophers, their lack of logical form and rigour, their fallacy in arguing from "the ego-centric predicament" (cf. vii., 1), their fallacies of 'pseudo-simplicity,' 'transcendent implication,' 'exclusive particularity,' 'speculative dogma,' 'verbal suggestion,' all of which he believes to arise from a disregard of Realism.] **H. M. Kallen.** 'James, Bergson and Mr. Pitkin.' [Cf. vii., 9. Pitkin's quotations are irrelevant, because the agreement between James and Bergson is on the epistemological and not on the metaphysical plane. For both concepts are *controllers* and not *revealers* of reality.]—vii., 14. **R. B. Perry.** 'Realism as a Polemic and Program of Reform—II.' [(1) A critique of naturalism, idealism, absolutism and pragmatism intended to show how they exemplify the errors classified in 1. (2) A programme of reform which includes a 'scrupulous use of words,' 'definition,' 'analysis,' 'regard for logical form,' 'division of questions,' 'explicit agreement,' and the separation of philosophic research from the study of the history of philosophy and the interpretation of established belief.] **J. Jastrow.** 'The Physiological Support of the Perceptive Processes.' ["Our perceptive processes are so much more dominantly psychological that the physiological aspect is suppressed, minimised, and at times disregarded," because of the "anticipatory effort" which seizes on the stimulus as soon as it occurs.] **H. Bergson.** 'A Propos d'un Article de Mr. W. B. Pitkin intitulé "James and Bergson".' [Very gracefully, but very thoroughly, repudiates Pitkin's interpretation of his meaning. James "a dit exactement ce que je pense. Je voudrais seulement l'avoir aussi bien dit."—vii., 15. **E. B. Holt, W. T. Marvin, W. P. Montague, R. B. Perry, W. B. Pitkin, E. G. Spaulding.** 'The Program

and First Platform' of Six Realists.' [Most of them show very plainly the influence of M. Bertrand Russell.] **M. R. Cohen.** 'The Conception of Philosophy in Recent Discussion.' [Argues that philosophy cannot be reduced to a science.] **F. J. E. Woodbridge.** 'The Problem of Time in Modern Philosophy.' [Thinks that "time tends to become as dominant and controlling a feature in our thinking as space was formerly. It is Darwin's picture which tends to replace Newton's."]

REVUE NÉO-SCOLASTIQUE. Février, 1910. **C. Sentroul.** 'Kantism and Metageometry.' ["Metageometry, of itself, does not upset the theories of Kant on space; it seems to justify Kant. But the fact of the matter is that, before as after the appearance of metageometry, the question of the synthetic character of mathematics and geometry must be resolved by an analysis of the process of analysis itself, more accurate and profound than that which Kant has elaborated."] **J. Lottin.** 'The Calculus of Probabilities, and Statistic Regularities.' **M. de Wulf.** 'Arnold Geulincx.' [He was the author of a Humanistic attack on the scholasticism of the seventeenth century. The foibles of the schoolmen of that age, and notably their endeavours to illustrate philosophy pictorially, merited this ridicule.]—Mai, 1910. **C. Piat.** 'The Life of Intelligence.' [A good Platonic article, bringing out the difference between Concept and Representation. "There is in all existence an essence, and in all essence a core of reality, which supposes somewhere an external original. Such is the thought of Plato, the thought of St. Augustine, of Descartes and Malebranche, of all the princes of human wisdom. And in checking their analyses, one is forced to confess that they have seen aright. Now the empirical school teaches us nothing of this fair and grand reality, because, with its series of sensations, or its purely subjective indefiniteness, it is radically incapable of attaining these heights."] **C. Scarlia.** 'The Philosophy of Karl Marx.' [Marx's relations with Hegel and Feuerbach as traced by Gentili, *La filosofia di Marx*.] **L. Noel.** 'The Frontiers of Logic.' [The relations of Logic to Psychology, with a discussion of Dr. Schiller's *Humanism* and Mr. Baldwin's *Thought and Things*.]

REVUE DE PHILOSOPHIE. 1^{er} Avril, 1910. **P. d'Hérouville.** 'Virtue and the Golden Mean.' [Virtue is a mean between two extremes, as going straight to the end, not swerving either to the right or to the left.] **C. Huit.** 'An Historical Study of the Absolute.' [Views of Certitude held by Plato, Aristotle, St. Thomas, Descartes, Spinoza, Leibnitz.] **J. Dario.** 'Physical Hypotheses and Theories.' ["No physical sciences are purely experimental. Hypothesis plays an essential part in physical science. The principles of physics are hypotheses. Physical theories do teach us something of objective reality." Altogether a thoughtful article.] **P. Charles.** 'Pragmatism of the French School.' ["Not only does it differ from American Pragmatism, it is diametrically opposed to it. According to Bergson, the True is at the antipodes to the Useful; in seeking the Useful we turn away from the True: Science is the way that leads to the Useful, Philosophy the way that leads to the True. The Pragmatists of the New Continent say on the contrary; there is no Truth but Utility: once you grasp the Useful, you have conquered the True."]—1^{er} Mai, 1910. **A. Müller.** 'Problems of Logic and of the History of Logic: Kant.' [A defence of Richl's thesis, that "the Kantian *Critique of Knowledge* is based upon a realist doctrine, and they who have interpreted and developed the *Critique* in a subjectivist sense are not following in the footsteps of Kant". The writer says: "The philosophy of Kant is in its general principles a complete development of

the scholastic axiom, *quidquid recipitur, recipitur secundum modum recipientis*. The two terms, Aristotle and Kant, do not imply opposition, but evolution."] **C. Huit.** 'The Absolute, an Historical Study.' [The Absolute, or its negation, is followed out in Locke, Hume, Kant, Fichte, Schelling, Hegel, Cousin, Vacherot, and others. With regard to Kant, a position is taken up contradictory of that assumed in the previous article.] **G. Michelet.** 'A Critical Review of Moral Theories.' [Deals with some recent French writers on Moral Science, who tend to go back upon empiricism and re-assert the normative value of the Science.] **X. Moisant.** 'Is Duty a Superstition?' [Discusses what is called in France 'lay morality'.]—1^{er} Juin, 1910. **P. Rousselot.** 'Being and Mind.' [An endeavour "to render more intelligible to our contemporaries the scholastic theory of intellectual perception, which, as presented in certain manuals, appears so mechanical, so verbal, so unreal". On that theory there are two things in perception, the *species impressa*, and the *species expressa*, otherwise called *verbum mentale*. By the former the mind is assimilated to the thing; by the latter it knows the thing, recognising itself in it and it in itself. A pure intelligence, an angel, has a permanent *species impressa* of its own being, and thereby comes essentially and permanently to understand itself. Not so the human mind. All that man essentially understands is *being in the abstract*, and therefore the human mind "renders abstract whatever it touches". The angelic mind, realising itself fully, realises its dependence on and need of God, and therefore essentially and explicitly craves for God, as it essentially loves itself. The human mind also essentially loves itself; but, not adequately knowing itself, it does not essentially know its need of God; therefore it does not crave after God except according to the vague knowledge essential to it of its own *being*, but not of its own nature; therefore it essentially craves after God vaguely, inasmuch as it essentially craves after good. This craving after good is the mainspring of all human intellectual activity; we do not know except what we somehow care to know, or take interest in; and we are interested only in good, and in its privation, evil. This is the amount of truth there is in Pragmatism. For the rest, the writer has no sympathy with Pragmatism; he considers it refuted by the fact that the willing of a good must be consequent upon the knowing of its being. The good that moves us is a *known* goodness: cognition follows upon cognition, presupposes it, and cannot be substituted for it. Pragmatism puts the cart before the horse.] **J. Maritain.** 'Modern Science and Reason.' [The bankruptcy of Modern Science consequent upon the ignoring of God.] **A. Diès.** 'Critical Review of the History of Ancient Philosophy.'—1^{er} Juillet, 1910. **G. Mennesson.** 'The Knowledge of God in St. Bonaventure.' [His *Itinerarium mentis ad Deum*, creatures making a hierarchy leading up to God. "The distinction is not quite clear in St. Bonaventure between the proofs of the existence of God and the means to arrive at the knowledge of God already admitted as existing."] **C. Huit.** 'The Absolute, an Historical Study.' [Post-Kantian opponents of the Absolute, Comte, Taine, Hamilton, Mill, Spencer, Renouvier. But the Absolute keeps coming back as the Unknowable, or the underlying Foundation of things.] **G. Bertier.** 'The Education of Responsibility.' **A. Diès.** 'History of Ancient Philosophy.' [Ritter on Plato, order of the *Dialogues* and their mutual relation, application of the stylistic method.]—1^{er} Aout, 1910. **G. Mennesson.** 'The Knowledge of God in St. Bonaventure.' [That according to St. Bonaventure, at least in his *Itinerarium*, the presence and operation of God in the soul, as the principle of its intellectual and spiritual life, makes it possible for man to have an immediate intuition of the existence of God.] **A. Diès.** 'Critical Review of Ancient Philo-

sophy.' [A review, not unfavourable, of Prof. Stewart's *Plato's Doctrine of Ideas*; as also of the romance of Plato's relations with his contemporaries, notably Aristotle, which M. Eberz discovers in the *Dialogues*.] F. Chovet. 'The Problem of Liberty.' ["The will appears as a force of tension, of resistance, of inhibition of instinct to the profit of reason. It is, to begin with, a sort of negative act. It is because we can *not will* that we can *will*. What is called *consent to evil* is properly an abdication of will. If the functioning of free will is hard to conceive, it is because our reason, being itself determined of necessity, is not in the way readily to comprehend free determination."]

ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd. lv., Heft 1 und 2. C. Stumpf. 'Beobachtungen über Kombinationstöne.' [The recent work of F. Krueger has led Prof. Stumpf to take up, in systematic fashion, the study of the subjective combinational tones, i.e. of those combinational tones which are not (or are not noticeably) intensified by resonators. After an introduction, in which the author sets forth his points of difference with Krueger, lays down the principles governing his own inquiry, describes the appliances used, and gives the nomenclature and mode of calculation of the tones in question, there comes three principal chapters, dealing respectively with the intervals within the octave, the mistuned octave itself, and intervals beyond the octave. Limits of space compel us to pass over the detailed work, and to proceed at once to the concluding summary of results. Prof. Stumpf finds the following combinational tones: (1) $h - l, h + l$; (2) $2l - h, 2h - l$; (3) $3l - 2h, 3h - 2l$; and (4) probably $4l - 3h, 4h - 3l$. Of these only $h - l$ (and this only in intervals within the octave) and $2l - h$ (this, by definition, occurring only beyond the octave) have any considerable intensity. The greatest number of tones is found with small intervals below the minor third (middle region of the scale); from this point on, the only differential tones observed are the first and second, $h - l$ and $2l - h$; beyond the major sixth, the second differential disappears; beyond the octave, only $h - l$ and $h + l$ (both very weak) are perceptible; beyond 1:8, only the summational tone; beyond 1:12, nothing is heard. All these tones are independent of overtones of the primaries; i.e., they may appear as subjective combinationals in cases where the partials mathematically implied by their formulæ are not objectively present. As regards theory, the writer offers the following remarks: (1) The experiments bring evidence in support of Helmholtz' contention that beats and combinational tones are of different origin. Helmholtz' assumption that the ear perceives only such tones as correspond to simple pendular movements of the atmosphere has been again and again confirmed by recent work; his view that tones of different pitch are taken up by spatially separate structures has also received confirmation, although the concept of acoustical resonance is not adequate to the process of physiological analysis. (2) Helmholtz was right in supposing that the ear presents certain especially favourable conditions for the origination of subjective combinational tones; but his own theory of their origination can hardly be upheld—though certain current objections are not decisive—since the tones $2h$ and $2l$, required by his formulas, cannot be heard. The important problem of the immediate future is physical: the explanation of the origin of objective combinationals with spatially separate tonal sources. (3) Aside from processes in the ear, and from the phenomena of bone conduction, it is probable that central processes are responsible for certain intensive differences among the tones (weakening and suppression).] Literaturbericht. Notiz. 'Das psychologische Institut des Leipziger Lehrervereins.'—Bd. lv., Heft 3. K. Groos.

'Untersuchungen über den Aufbau der Systeme, iii. Zur Psychologie der Entgegensetzung.' [(1) *Non-intellectual Factors*: It is right to distinguish difference of consciousness from consciousness of difference. But the former may give rise to the latter under the condition that we are set or disposed for the usual or the current, and that the unusual occurs, or the progress is interrupted: the balk or shock that we then experience is the primitive consciousness of difference. If the unusual is of the same kind as the usual, and differs from it only within that kind, we have an elementary consciousness of contradictory opposition. For contrary opposition we must go to the phenomena of contrast; here there is positive material for the attention; and if we are set for the one of two extremes (contrast in the narrower sense), our reaction to the other corresponds to the formulation of a contrary opposition in logic. So far we are in the realm of sense. Passing to that of ideas, we may find the bridge between our opposites in simple association; extremes meet, by indirect contiguity. But we have more powerful psychological factors in the polarity of feeling and will, and—what is most important of all—in the tendency to reversal of those organic states which, on the James-Lange theory, constitute the body of our emotions; the connexion of ideas thus leads us back to the phenomena of sensation. (2) *The Intervention of Thought*. In the actual construction of philosophical systems, thought and all that thought implies—language, concepts, judgments—are necessarily involved. It is here worth while to emphasise a fact long known, but only now coming to its systematic rights: the fact that we think objects. The relevance of this fact to our discussion is shown by a mere reference to such things as the Pythagorean numbers, the scholastic universals, the modern laws of nature, the Kantian consciousness. It is this that explains, psychologically, the objectification of affirmation and negation. And the passage from the contradictory to the contrary opposite is also psychologically intelligible: neither imagination nor thought is satisfied with mere negation; both demand a something which negates. Finally the writer calls attention to the relations of conceptual thought to the idea of space. The strong and wide-spread tendency to spatial representation may be due to the tendencies of language, but probably goes deeper, to primitive modes of intentional reference. At any rate, we have horizontal and distance schemata, and (for values) especially the vertical schema; the placing of the greater above the lesser value may have its root in mythology, and witness to a heliotropism of the soul.] Literaturbericht. **G. Stoerring**. 'Entgegnung.' **K. Buehler**. 'Antwort.' [Apropos of a review of Stoerring's *Untersuchungen üb. einfache Schlussprozesse*.]—Bd. lv., Heft 4. **A. Marty**. 'Ueber Begriff und Methode der allgemeinen Grammatik und Sprachphilosophie.' [Detailed reply to the review of the writer's *Untersuchungen zur Grundlegung der allgemeinen Grammatik und Sprachphilosophie* given in Bd. lli. by K. Vossler. Contains in particular a defence of modern psychology, in its relations with science of language, and a polemic against Vossler's idealistic aesthetics.] **R. von Sterneck**. 'Ueber wahre und scheinbare monokulare Sehrichtungen.' [Witasek has recently called attention to the difference of monocular localisation: a stationary object, viewed with the one eye, appears somewhat shifted from the position which it takes for the other eye. His explanation is that, while in binocular vision corresponding retinal points are correlated with a single point in the visual sphere, in monocular vision they are correlated with visual points that differ by the difference found for monocular localisation. Hillebrand, on the contrary, ascribes Witasek's results to heterophoria. The author has made a quantitative determination of the difference in question, and finds that it is large for near objects, decreases with

increased distance, and finally at a certain distance changes its sign. Neither of the previous theories accounts for these phenomena. The writer, therefore, proposes a psychological theory, in which the difference of localisation is regarded as an illusion, due to an unwonted use of the sense-organ.] **R. Hennig.** 'Bemerkungen zu einem Fall von abnormem Gedächtnis.' [In Bd. x., 1896, the writer published a paper entitled *Entstehung und Bedeutung der Synopsien*, in which he gave some account of his extraordinary memory for dates (days, months and years), and referred it to a mental number diagram. He here supplements the earlier analysis by extracts from his mother's diary, which witness to his early interest in and power over numbers, and by a number of instances which show the wide range of the partial memory and the curiously remote ideas that are linked by its automatic operation.] *Literaturbericht.*—Bd. lv., Heft 5 und 6. **T. Wagner** mit Unterstützung von **C. L. Vaughan.** 'Bibliographie der deutschen und ausländischen Literatur des Jahres 1908, über Psychologie, ihre Hilfswissenschaften und Grenzgebiete.' [4547 titles, as against 3532 of the *Psychological Index*. Several changes have been made in the analytical table of contents: the number of introductory sections rises from 6 to 8; anatomy and physiology gain 1 and 4 sections respectively; ideas gain 3, and feelings 1; movement and will, with 6 sections, become impulse and will, with 5; the two large divisions of Special States and Individual and Society (5 and 3) become Special States (3), Mental Pathology (3), Mental Differentiations (2), Genetic Psychology (3), and Racial and Social Psychology (3); while, finally, comparative psychology gets 3 sections under the former single rubric.]

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. cxxxvii., Heft 2, 1910. **Albrecht Steglich.** 'John Stuart Mills Logik der Daten.' **R. Manno.** 'Zur Metaphysik der Willensfreiheit.' **Adolph Köster.** 'Kant und Aristoteles.' **Eugen Staurm.** 'Das Problem der Erlösung und die Schillersche Weltanschauung.' *Rezensionen*, etc.—Bd. cxxxviii., Heft 1. **Friedrich Steppuhn.** 'Wladimir Ssolowjew.' **Dunkmann.** 'Zum Begriff des Individuellen.' **Gerhard Tiemann.** 'Das Problem der Materie bei Eduard von Hartmann.' **Karl Vorländer.** 'Kants Werke in der Akademie-Ausgabe.—Bd. v.-vii.' *Rezensionen*, etc.—Bd. cxxxviii., Heft 2. **Gerhard Tiemann.** 'Das Problem der Materie bei Eduard von Hartmann.' **Friedrich Steppuhn.** 'Wladimir Ssolowjew.' **Paul Schwarzkopff.** 'Die Erkenntnis der Aussenwelt.' *Rezensionen*, etc.—Bd. cxxxix., Heft 1. **Dr. Hans Eibl.** 'Platons Psychologie.' **Hugo Friedmann.** 'Bewusstsein und Bewusstseinsverwandte Erscheinungen.' **Kurt Geissler.** 'Sein, Nichtsein, Das All und die Begrenzung der Einzelseele.' *Rezensionen*, etc.

RIVISTI DI FILOSOFIA. Anno ii., Fasc. 2, April-May, 1910. **Roberto Ardigò.** 'Repetita juvant.' [As its title implies, this article gives a fresh summary of the venerable author's philosophy, enriched among other things with an interesting parallel between his theory of psychological evolution and the new theories of the relation between ether and matter.] **Giovanni Calò.** 'L'intelligibilità delle relazioni.' [Things cannot be entirely resolved into a network of relations, nor yet can they be thought of as having a real existence outside all relation. The reasoning of those who, like Messrs. Bradley and A. E. Taylor, dissolve relations into an illusory appearance is based on arbitrary assumptions, and in fact obliges them to return to mysticism.] **G. Marcherini.** 'La "finzioni" della Giustizia assoluta.' [Experience proves that men's notions of justice are in a continual flux, varying according to times,

places and persons. But absolute justice, though never realised and nearly impossible to define, exercises an important regulative function in the evolution of morals. Moreover the appeal from a law of nature to a law of love is inconsistent with itself. For the so-called right of the stronger is no more natural to man than the obligation of mutual forbearance and love.] **Pasquale d'Ercole.** 'L'essere evolutivo finale.' [Hegelianism can be brought into agreement with the facts of history if we conceive all philosophy, European and Oriental, as the study of three dominant and perpetually recurring ideas: Being, Evolution and Teleology. The last idea is apparently to be understood as covering equally the Aristotelian idea of an eternally existing God as the highest form of existence, and the positivist idea of a humanity perpetually improving in time.] **Luigi Amoroso.** 'Sulle analogie fra l'equilibrio meccanico e l'equilibrio economico.' [In the series of analogies drawn out by this writer between mechanics and economics the only one of real interest seems to be the seventh, in which the so-called "mechanics of non-inheritance"—that is to say, the theory according to which the position of bodies at any instant is determined by their position the instant before, as distinguished from the "mechanics of inheritance"—according to which a body's position is determined by its whole previous history—is used to illustrate and enforce a similar distinction in economics. According to Signor Amoroso theories of determinism ultimately reduce social dynamics to a theory of non-inheritance which is inconsistent with the facts. This seems the same as saying that causes of a particular kind do not determine their effects.] **Guido de Ruggiero.** 'L'eclettismo francese.' [The only merit of Victor Cousin and his school lies in the services they rendered to the history of philosophy.] Bibliografia, recensioni, etc.

IX.—NOTES.

OBSERVATIONS UPON PROF. TAYLOR'S NOTICE OF *NATURAL AND SOCIAL MORALS*.¹

THE illusion of individuality seems not to be confined to the world of perception, but to have deeper roots in the mind: hence Prof. Taylor cannot understand me, nor I him. 'Cannot understand' is the proper expression; for he writes apparently with the intention to be fair and reasonable; and yet his remarks seem to me to be nearly all erroneous and some of them no better than caricature. He complains, in the first place, that *Natural and Social Morals* is deficient in unity; for it declares the chief good to be philosophy, but after the first forty or fifty pages this is lost sight of. Although this is not exactly true, there may be some excuse for the complaint, for reasons that are obvious. As he says, that philosophy is the chief good is asserted as "little more than a personal predilection"; in my own words, "if one term must be chosen to denote the chief good, philosophy or culture is the best" (p. 41). But my second chapter shows at length that the chief good is a great complex aim of human effort, which it is the fault of schools of moralists to conceive abstractly by some one or other of its characters, such as perfection, happiness, philosophy, but which in fact includes them all. Knowing, then, that very few people will accept philosophy as the chief good, and desiring to conciliate as many as possible, I speak afterwards, in general, of the chief good, or the total good, rarely obtrude my "personal predilection". But the whole remainder of the book discusses the conditions of attaining the chief good—by social development, by the improvement of character, by eugenics, and by the influence of institutions. That another cannot understand the unity of this is what I cannot understand.

Similarly, we are told that single chapters have no unity; chapter viii., for example, on the "Influence of the State on Morals," contains "a variety of rather satirical sketches dealing with such questions as the alleged immorality of diplomatists, the evil effects of the party system in politics, and the like, but no serious attempt to exhibit any connected view of the relation of governmental institutions to private morality"; a truthful description no doubt of the effect of that chapter on the reviewer, but in fact so untrue that it would be flattery to call it caricature. The chapter discusses the effect on character of the size of the State, of the form of government, of parties, of law in general, of punishment and rewards, of forms of industry, and of the State's external relations.

The reviewer attributes my worst faults to 'a horror of metaphysics': an accusation that must be based upon 'hearsay'. Neither in this book nor elsewhere have I expressed any such feeling. On the contrary, the introduction to the present book explains that it develops ideas set

¹ MIND, July, 1910.

forth in the concluding sections of an earlier book that treated of metaphysics, and indicates a metaphysical reason for regarding philosophy as the chief good, namely, that it may be the End of Nature to arrive at self-consciousness in rational beings. That "nature is not a realm of purposes," a doctrine which the reviewer ascribes to me, I nowhere say, but only (with regret) that, "in strict reasoning there is no evidence for it" at present, or known to me (p. xix).

A prominent doctrine of my book is that *Morals* is a science of causation: a view which I trace to Cumberland and in Bentham. In connexion with it Spencer should have been mentioned and Mr. G. E. Moore, in whose *Principia Ethica* it is expounded far more fully and effectively than anywhere else; it is agreeable to have this opportunity of remedying the oversight. Now, as to *Morals* being a science of causation, Prof. Taylor suggests that "it is pertinent to ask whether the proposition 'Philosophy is the chief good' asserts a causal relation". Undoubtedly: it asserts that philosophy is the effect that all moral actions tend to realise, or that the desire of wisdom is the surest motive of virtue. How was it possible to misunderstand this? But since a science of causation need not consist entirely of causal judgments, there is in this practical science another way of considering the Good, namely, in relation to choice.

The illusion of individuality is referred to in two or three passages of my book—the doctrine of empirical illusion as the cause of opposition and strife;—which is as old as Philosophy. Prof. Taylor, however, calls it the "Humian doctrine," and seems to think that empirical illusion must be indistinguishable from a dream. Does not this pass all understanding?

As to eugenics, it seems to the reviewer that I vacillate between the view that "we may look forward to the scientific breeding of morally good qualities under the guidance of a Government Board of experts," and "the hope of little more than the elimination of the habitual criminal by life-long segregation" and the avoidance of moral *mésalliance*. The latter, he justly says, better represents my real view (inadequately, of course): the former scheme I nowhere recommend, but plainly discontenance; there is no vacillation.

"Dr. Fraser's wild theory about the annual killing of the king," which "rests on hardly a scrap of real evidence," its author will defend if he thinks it worth while. Possibly too much stress is laid upon it at page 86 of my book; but nothing turns upon the extreme form of that hypothesis. For my theory of tragedy it is enough to trace the origin of tragedy to religious rites.

Next as to some "historical facts that are perverted". I have written that "in estimating the value of World-religions, in which Church and State cease to be conterminous, I am inclined to give a foremost place to their tendency to separate the spiritual from the political power. Having different centres of influence and different functions, those powers are sure to fall at variance with one another. True that for ages in Christendom the power of the Church, with its vast wealth, strong organisation and exclusive possession of the higher culture, so successfully controlled the ignorant and superstitious barbarians who possessed the temporal power, as to make them the servants or tools of oppression. But even then a conflict of authority between soldier and priest was not rare; and as soon as the barbarous ages began to be illumined by civilisation, and educated statesmen could be found amongst the laity, the tendency to an opposition between spiritual and political power was gradually realised, and its effects may be seen in the State's independence of the Church throughout the greater part of Europe" (p. 242). Prof.

Taylor quotes from this passage only the words that I have italicised, and then asks whether I have "never heard of St. Thomas of Canterbury or of John Ball or Jack Straw, or of the incessant conflicts of the Middle Ages between the secular and ecclesiastical authorities? Does he really include the Hohenstaufen emperors amongst the ignorant and superstitious barbarians?" In the light of the whole passage these questions have no sense.

But before asking these questions, he adds to the above italicised passage another from the next page, and makes a confused attack upon both together. "And, again (p. 243), he says, 'In the history of Christianity this opposition (i.e., between religion and philosophy) produced numerous heresies; but in about five centuries the heresies all seemed to be suppressed and philosophy along with them, and the system that we know as Romanism was established'." And upon this, apparently, he asks whether I "seriously think that heresy did not exist until 500 years before the Council of Trent, or that philosophy was only to be found on the heretical and not on the orthodox side?" This implies that Romanism was established by the Council of Trent; but that Council only gave greater definiteness to what had been established hundreds of years before. That philosophy is never found on the orthodox side I have nowhere said. But philosophy is inquiry without foregone conclusions, and is very apt to be heretical, as the history even of Scholastic Philosophy shows; and the greater part of orthodox writing, using the terms of speculation, its forms of argument and arrangement, but having foregone conclusions, is not philosophy; it is an imitation of philosophy.

But, again, "we are told in another place that 'all great ideas originate in towns'; and we naturally ask whether the author of such a dictum has ever heard of the prophets or of the preaching of Jesus, or of Mohammed". Any one to whom such a question occurs 'naturally' must have forgotten that Mohammed was of Mecca; that Jesus is said to have visited Jerusalem (we know not how often) and to have sought the conversation of the wisest men there; that Isaiah, Jeremiah and Ezekiel were of Jerusalem—the last afterwards of Babylon. He must also suppose that the great ideas to which the prophets gave such prodigious energy, originated with them; and, further, must conceive it possible that a popular religion can be founded on new ideas: neither of which positions is true. What makes the prophets effective for religion is not the originality of their ideas, but the force of their convictions, their power as poets and their genius for applying ideas to human life.

Finally (as to these historical matters), "the author cannot think of a case in which a people has permanently benefited by being conquered, 'where there has been no enslavement peace has been dearly bought with effeminacy' (p. 217). And we wonder whether the cases of which he has thought include the Roman conquests of Gaul and Spain, or Charlemagne's conquest of the Saxons, or our own conquest of French Canada." No doubt, had the point been important, some qualifications should have been made in speaking of 'conquests,' which may vary so greatly in character, and of 'permanent benefit to a people,' as to which there may be so much divergence of valuation. An old Whig's political sentiments are apt to differ widely from those of the rising generation. But I think that the populations of Gaul and Spain were disarmed by the Romans, and tamed, and easily overrun by German tribes in the fifth century, as they never would have been before they were deprived of freedom. To be disarmed is the foulest blow that manhood can suffer: it strikes at the root of every virtue. The Saxons, vanquished by Charlemagne after a long war, advanced rapidly in civilisation: at least

their country did. But the brunt of a long war and conquest falls upon a nation's chivalry. Thousands fell in battle, or were massacred, or fled to pagan lands; thousands were transplanted into other countries. Therefore subsequent generations bred from an inferior stock. Meanwhile, the pacified desert was repopled with foreigners. Nevertheless, the changed position of the Saxons was more like the result of an alliance than of a conquest: though certain laws were imposed upon them they retained most of their customs. Witikind accepted baptism with a duchy (probably) in the new system; and little more than a century later, it was from him that the Saxon emperors traced their descent. Canada I do not discuss.

Twice over I credit Aristotle, as Prof. Taylor says, "with the absurd remark that 'whatever the law does not command it forbids'" (*Ethics*, v., 11, § 1). "On looking up the reference," says the critic, "we see that Aristotle is talking of the special ease of homicide, and that his meaning is the perfectly sensible one that 'any homicide which the law does not expressly permit (the rendering of *κελεύει* in the formula by 'commands' is a mere blunder) it must be taken to forbid'." Aristotle, however, is not discussing homicide, but whether a man can do a wrong to himself, taking as an example the case of suicide, and only (according to a certain reading, which we shall come to) referring in the third place to homicide. The recent history of this matter is amusing. My translation is given by Grant, who expresses astonishment, and asks if the Athenian law really commanded its citizens to breathe, to eat, to sleep. Jackson says that Grant cannot have appreciated "the idiomatic use of οὐ κελεύει," and he translates the passage "what the law does not allow it forbids". Upon this J. A. Stewart observes that he cannot believe that Aristotle intended such tautology; and he proposes to understand νόμος to include custom and fashion, which may be truly said to forbid whatever they do not command. J. Burnet, in his note, repudiates the idiomatic rendering. He proposes to repeat ἀποκτινύναι after μὴ κελεύει; so that the passage will read: 'For example, the law does not command a man to kill himself, and what it does not command us to kill it forbids': that is, homicide in general is forbidden, and no exception has been made of killing oneself. Now, if Aristotle is referring to any actual law, Burnet's view seems to me very good. My own rendering assumes that Aristotle is not referring to any actual law or custom, but to that which should prevail in a well-ordered city, such as he himself purposed to describe, and which as a rational conception might be spoken of as existing. Hence in *Natural and Social Morals* (p. 50), I say: "When the conception of law, as a system of regulations capable of being adapted to every exigency of human life, has once become clear, it may be assumed, under the influence of religious or philosophical ideas, that such a system actually exists in the nature of things, though not yet worked out in detail, according to the saying of Aristotle, that 'whatsoever is not ordained is forbidden'". That he contemplated such a code for his own State may be seen in the *Ethics* (x., 9, § 9), where he makes the transition to the *Politics*; for he says that not only in youth must the citizen's nurture be cared for, but that for adults also there must be laws about these things καὶ ὅλως δὴ περὶ πάντα τὸν βίον. Such a code would have rules of eating and sleeping and (under a religious legislator) of breathing; for the connexion between regularity of breathing and frames of mind was anciently perceived.

Further, I am accused of attributing to Aristotle an ego-altruistic view of conduct, and of interpreting τὸ καλόν, as the standard of actions, to mean "because others will think you a fine fellow for doing them". No reference is given; but I find at page 173 that Aristotle's name occurs in a

context that lends some faint excuse to such caricature. Why not say, however, that at page 89 this very error is explicitly corrected: "what was praised as noble, or rather what reflexion showed most deserving of such praise (τὸ ἀπλῶς καλόν)"? Still, that Aristotle's practical virtues are essentially ego-altruistic, however refined by philosophic reflexion, I hold to be true, and important to the interpretation of morals and politics.

Finally, this term 'ego-altruistic' and another—'geo-political environment'—are very objectionable, as Prof. Taylor says; and so is 'auto-suggestion' (which he has not noticed). Of course, I did not invent any of them; and that such technical terms "corrupt the language" is a confusion of ideas. Critics who comment on such things never attempt to supply something better; they have no notion of co-operating; and indeed the evil can only be remedied by getting some conference to appoint a committee. The worst of such terms is not their ugliness, but the indirect effect of it in diverting a reader's attention. 'Ego-altruistic' has probably hindered Spencer's readers from considering sufficiently the facts it stands for, without which characters and manners and history cannot be understood.

CARVETH READ.

DEATH OF PROF. WILLIAM JAMES.

It is with profound regret that we have to record the death of Prof. William James of Harvard, which took place at his summer home at Chocorua, N.H., on 26th August last. Prof. James was born in New York on 11th January, 1842. In 1865 he went to Brazil with the Agassiz Expedition. He graduated from the Harvard Medical School in 1870, and continued to be a teacher at Harvard until 1907. Until 1880 he was instructor, and later Assistant Professor of Comparative Anatomy and Physiology. From 1880 to 1885 he was Assistant Professor of Philosophy; from 1885 to 1889 Professor in the same department. He was Professor of Psychology from 1889 to 1897, and Professor of Philosophy from 1897 to 1907, when he severed his long connexion with the Faculty of Harvard University in order to devote himself to writing. He was Gifford Lecturer at the University of Edinburgh from 1899 to 1901. With Professor James a figure of central interest and importance has disappeared from the Philosophical World. An article on his life and work will appear in our next number.

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